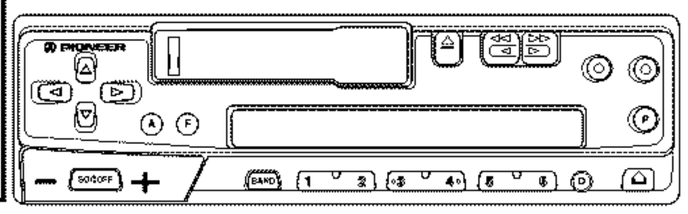
Service Manual

PIONEER®
The Art of Entertainment

KEH-P3700R/X1M/EW



ORDER NO.
CRT2109

MULTI-CD CONTROL HIGH POWER CASSETTE PLAYER WITH RDS TUNER

KEH-P3700R X1M/EW
KEH-P3730R X1M/EW

NOTE:

- **See the separate manual CX-644(CRT1800) for the cassette mechanism description.**
- **The cassette mechanism assy employed in this model is one of 2M series.**
- **This service manual has no describe CD test mode.**
  For the operations in the CD test mode, refer to the CD player's Service Manual.

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K-ZEM. NOV.1997 Printed in Belgium

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1. SAFETY INFORMATION

This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer.
Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.
Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty.
If you are not qualified to perform the repair of this product properly and safely, you should mot risk trying to do so and refer the repair to a qualified service technician.

2. EXPLODED VIEWS AND PARTS LIST

2.1 PACKING

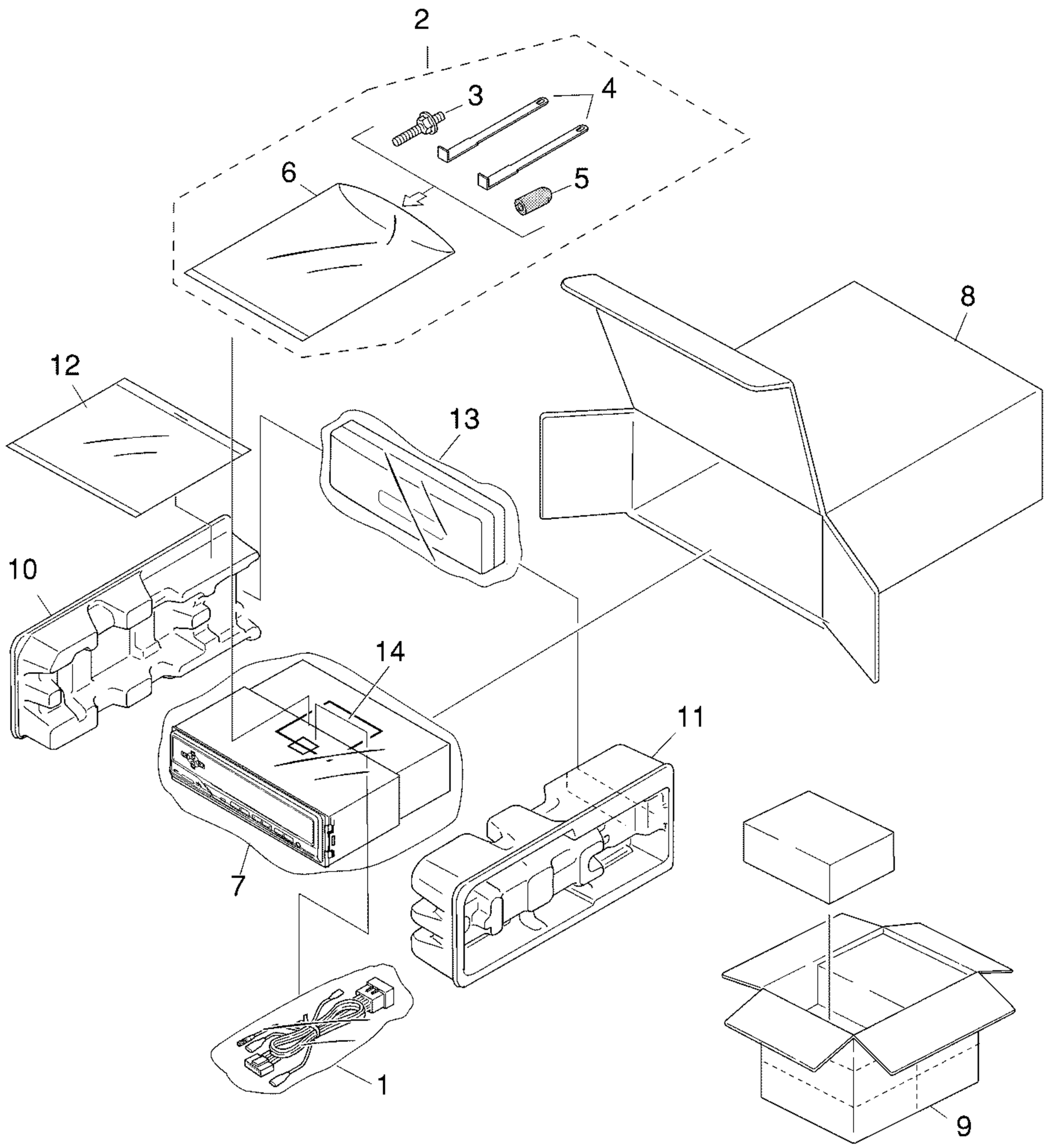

Fig. 1

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NOTE:

- Parts marked by "*"are generally unavailable because they are not in our Master Spare Parts List.
- Screws adjacent to ∇ mark on the product are used for disassembly.

● PACKING SECTION PARTS LIST

Mark	No.	Description	Part No. KEH-P3700R/X1M/EW	Part No. KEH-P3730R/X1M/EW
	1	Cord Assy	CDE5497	CDE5497
	2	Accessory Assy	CEA1917	CEA1917
	3	Screw	CBA1304	CBA1304
	4	Handle(x2)	CNC5395	CNC5395
	5	Bush	CNV3930	CNV3930
*	6	Polyethylene Bag	E36-615	E36-615
	7	Polyethylene Bag	CEG-162	CEG-162
	8	Carton	CHG3342	CHG3343
	9	Contain Box	CHL3342	CHL3343
	10	Protector	CHP1622	CHP1622
	11	Protector	CHP1623	CHP1623
	12-1	Owner's Manual	CRD2503	CRD2503
	12-2	Owner's Manual	CRD2504	CRD2504
	12-3	Owner's Manual	CRD2505	CRD2505
	12-4	Installation Manual	CRD2506	CRD2506
*	12-5	Passport	CRY1013	CRY1013
*	12-6	Warranty Card	CRY1087	CRY1087
	13	Case Assy	CXB1063	CXB1063
*	14	Caution Card	CRP1172	CRP1172

● Owner's Manual, Installation Manual

Part No.	Language
CRD2503	English,Spanish
CRD2504	German,French
CRD2505	Italian,Dutch
CRD2506	English,Spanish,German French,Italian,Dutch

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2. EXPLODED VIEWS AND PARTS LIST

2.1 EXTERIOR

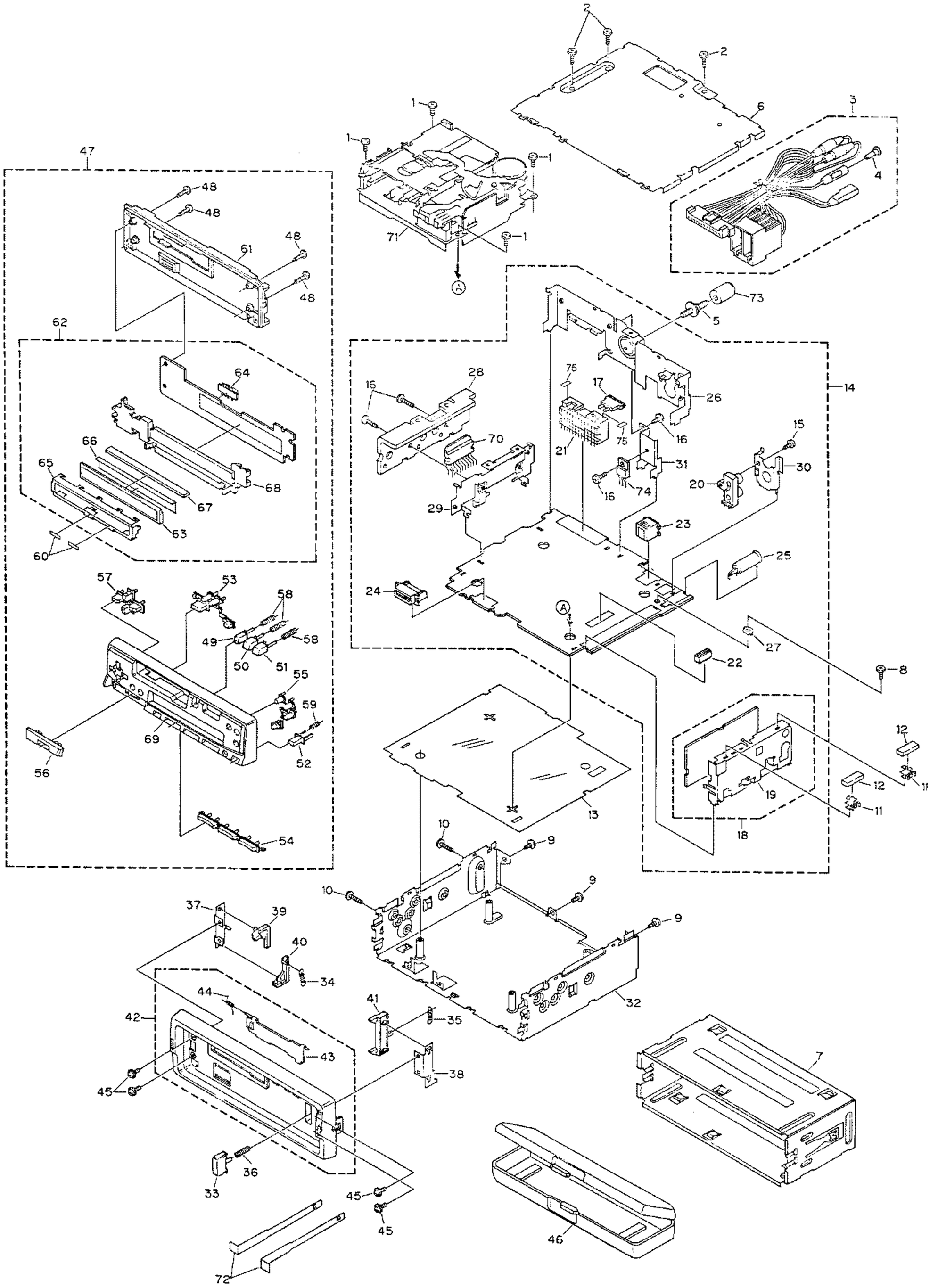

Fig. 2

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(1) EXTERIOR SECTION PARTS LIST

Mark No.	Description	Part No.
1	Screw	BSZ26P050FMC
2	Screw	BSZ30P100FMC
3	Cord Assy	CDE5497
4	Terminal Cover	CKX-003
5	Screw	CBA1304
6	Case	CNB2074
7	Holder	CNC6798
8	Screw	BSZ30P055FUC
9	Screw	BSZ30P060FMC
10	Screw	BSZ30P100FMC
11	Holder	CNC5704
12	Cushion	CNM4870
13	Insulator	CNM5025
14	Tuner Amp Unit	See Contrast table(2)
15	Screw	BPZ26P080FMC
16	Screw	BSZ26P080FMC
17	Fuse(10A)	CEK1136
18	FM/AM Tuner Unit	CWE1466
19	Holder	CNC6554
20	Pin Jack(CN401)	CKB1035
21	Plug(CN601)	CKM1270
22	Connector(CN604)	CKS3362
23	Connector(CN602)	CKS3408
24	Connector(CN603)	CKS3581
25	Antenna Jack(CN301)	CKX1056
26	Panel	CNB2245
27	Holder	CNC5399
28	Heat Sink	CNC6217
29	Holder	CNC6372
30	Holder	CNC6531
31	Holder	CNC6845
32	Chassis Unit	See Contrast table(2)
33	Button	CAC4836
34	Spring	CBH1834
35	Spring	CBH1835
36	Spring	CBH1996
37	Bracket	CNC6135
38	Bracket	CNC6791
39	Arm	CNV4692
40	Arm	CNV4693
41	Arm	CNV4728
42	Panel Unit	See Contrast table(2)
43	Door	CAT1814
44	Spring	CBH1838
45	Screw	IMS20P030FZK
46	Case Assy	CXB1063
47	Detach Grille Assy	See Contrast table(2)
48	Screw	BPZ20P120FZK
49	Button(⏏)	CAC4867
50	Button(⏪)	CAC4868
51	Button(⏩)	CAC4869
52	Button(⌂)	See Contrast table(2)
53	Button	CAC5306
54	Button(1–6)	See Contrast table(2)
55	Button	See Contrast table(2)
56	Button(DOWN,UP)	See Contrast table(2)
57	Button	See Contrast table(2)
58	Spring	CBH1836
59	Spring	CBH2103
60	Spacer	CNM5319
61	Cover	See Contrast table(2)
62	Keyboard Unit	See Contrast table(2)
63	LCD(LCD901)	See Contrast table(2)
64	Connector(CN901)	CKS3580
65	Holder	CNC6846
66	Reflector	CNM5542
67	Connector	CNV4763
68	Lighting Conductor	CNV5074
69	Grille Assy	See Contrast table(2)
70	IC(IC501)	HA13155
71	Cassette Mechanism Assy	EXK3475
72	Handle	CNC5395
73	Bush	CNV3930
74	Transistor(Q801)	2SD2037
75	Spacer	CNM5739

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(2) CONTRAST TABLE

KEH-P3700R/X1M/EW and KEH-P3730R/X1M/EW are constructed the same except for the following:

Mark No.	Symbol and Description	Part No. KEH-P3700R/X1M/EW	Part No. KEH-P3730R/X1M/EW
14	Tuner Amp Unit	CWM5514	CWM5515
32	Chassis Unit	CXB1662	CXB1663
42	Panel Unit	CXA9847	CXA9848
47	Detach Grille Assy	CXB1719	CXB1720
52	Button(⏏)	CAC4870	CAC4993
54	Button(1–6)	CAC5307	CAC5324
55	Button	CAC5310	CAC5308
56	Button(DOWN,UP)	CAC5321	CAC5320
57	Button	CAC5323	CAC5322
61	Cover	CNS4627	CNS4628
62	Keyboard Unit	CWM5523	CWM5524
63	LCD(LCD901)	CAW1383	CAW1391
69	Grille Assy	CXB2316	CXB2317

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2.2 CASSETTE MECHANISM ASSY

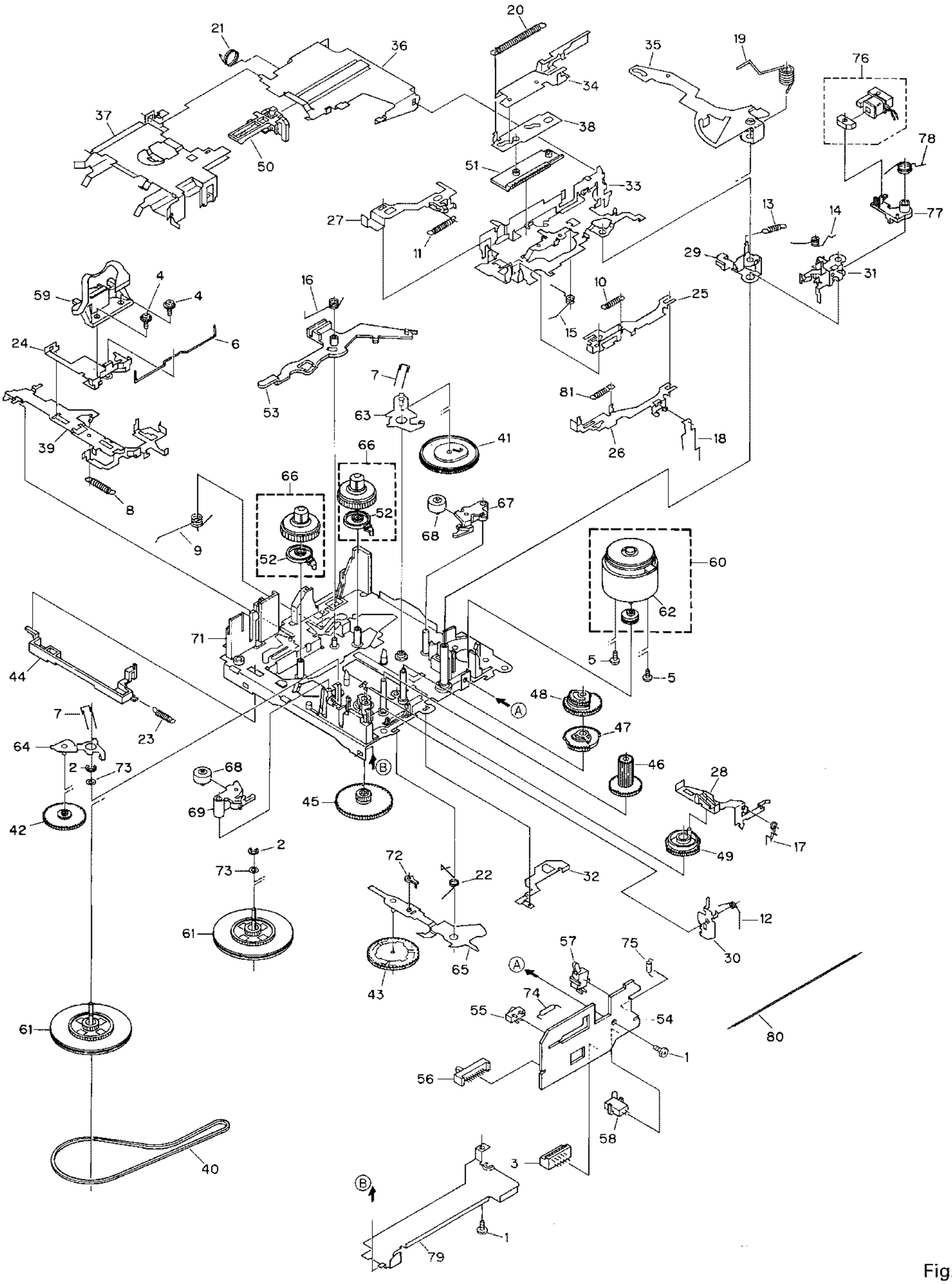

Fig. 3

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● CASSETTE MECHANISM ASSY SECTION PARTS LIST

Mark No.	Description	Part No.
1	Screw	BSZ23P050FMC
2	Washer	CBG1003
3	Connector(CN1)	CKS2829
4	Screw(M2x5)	EBA1028
5	Screw(M2x2.5)	EBA1037
6	Spring	EBH1554
7	Spring	EBH1555
8	Spring	EBH1556
9	Spring	EBH1557
10	Spring	EBH1591
11	Spring	EBH1559
12	Spring	EBH1593
13	Spring	EBH1561
14	Spring	EBH1562
15	Spring	EBH1563
16	Spring	EBH1590
17	Spring	EBH1565
18	Spring	EBH1566
19	Spring	EBH1567
20	Spring	EBH1568
21	Spring	EBH1569
22	Spring	EBH1571
23	Spring	EBH1579
24	Head Base	ENC1457
25	Lever	ENC1429
26	Lever	ENC1430
27	Lever	ENC1431
28	Lever	ENC1432
29	Arm	ENC1433
30	Arm	ENC1434
31	Arm	ENC1435
32	Arm	ENC1476
33	Bracket	ENC1437
34	Lever	ENC1438
35	Arm	ENC1439
36	Frame	ENC1440
37	Holder	ENC1441
38	Lever	ENC1446
39	Lever	ENC1454
40	Belt	ENT1027

Mark No.	Description	Part No.
41	Gear	ENV1504
42	Gear	ENV1470
43	Gear	ENV1471
44	Lever	ENV1472
45	Gear	ENV1474
46	Gear	ENV1475
47	Gear	ENV1493
48	Gear	ENV1477
49	Gear	ENV1499
50	Lever	ENV1480
51	Lever	ENV1487
52	Arm	ENV1464
53	Arm	ENV1489
* 54	PCB	ENP1148
55	Switch(Eject)(S4)	ESG1002
56	Switch(FWD)(REV)(S3)	ESH1006
57	Switch(Load)(S1)	ESN1016
58	Switch(Mute)(S2)	ESN1017
59	Head Assy(HD1)	EXA1466
60	Motor Unit	EXA1502
61	Flywheel Unit	EXA1505
62	Motor	EXM1028
63	Arm Unit	EXA1447
64	Arm Unit	EXA1448
65	Arm Unit	EXA1449
66	Reel Unit	EXA1450
67	Pinch Holder	ENV1466
68	Pinch Roller	ENV1514
69	Pinch Holder	ENV1467
70	•••••	
71	Chassis Unit	EXA1465
72	Service Arm	EXX1048
73	Washer	HBF-179
74	Resistor(R1)	RD1/4HM472J
75	Diode(D1)	F1SR35-100A
76	Solenoid(SO1)	EXP1012
77	Arm	ENV1491
78	Spring	EBH1582
79	Cover	ENC1452
80	Cord	EDC1006
81	Spring	EBH1592

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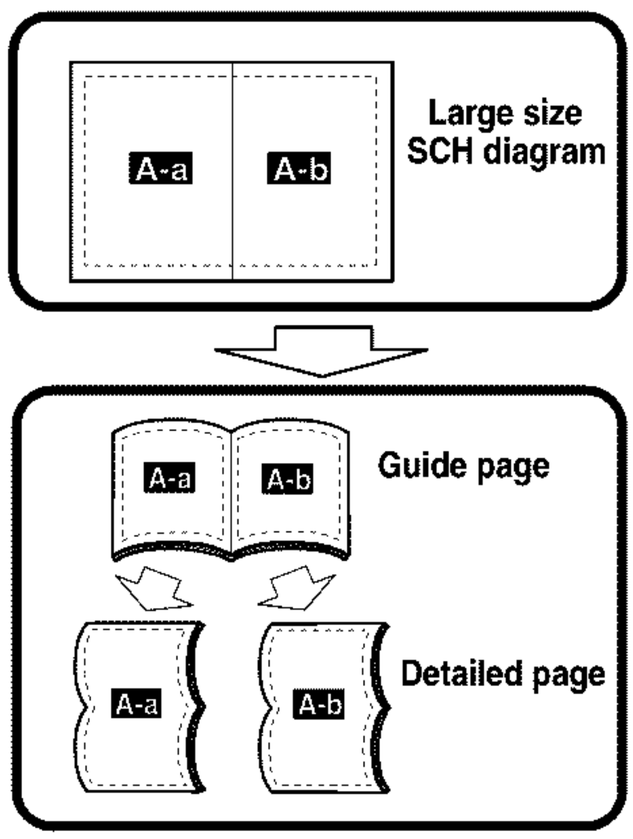
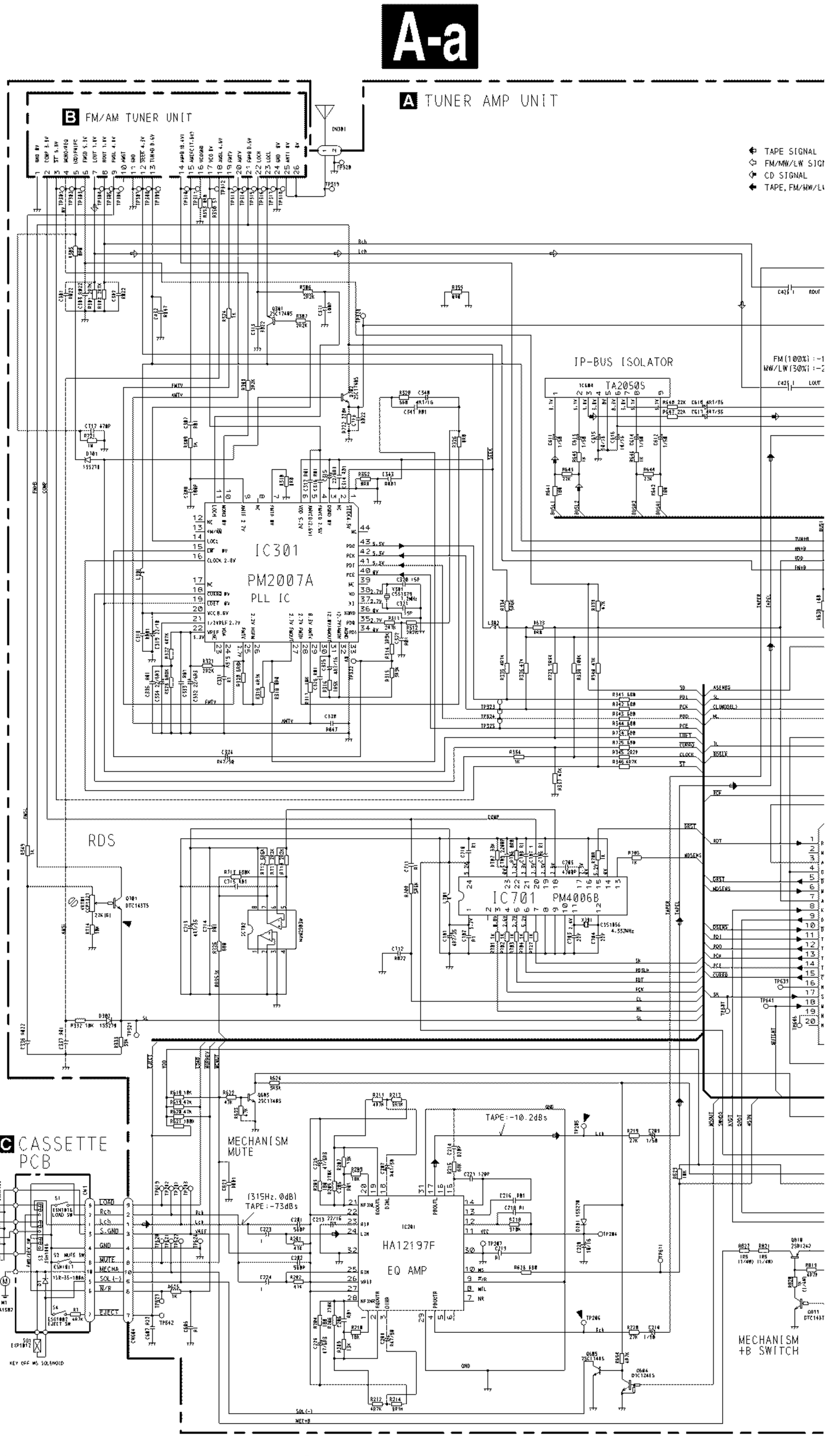
3. SCHEMATIC DIAGRAM

3.1 OVERALL CONNECTION DIAGRAM(GUIDE PAGE)

Note: When ordering service parts, be sure to refer to "EXPLODED VIEWS AND PARTS LIST" or "ELECTRICAL PARTS LIST".





A-b

NOTE:
Symbol indicates a resistor.
No differentiation is made between chip resistors and discrete resistors.
Symbol indicates a capacitor.
No differentiation is made between chip capacitors and discrete capacitors.

Decimal points for resistor and capacitor fixed values are expressed as:
2.2→2R2
0.022→R022

The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.

TAPE SIGNAL
FM/MW/LW SIGNAL
CD SIGNAL
TAPE, FM/MW/LW, CD SIGNAL

RCA OUT
TAPE:+4.2dBs
POWER AMP
HA13155
IC581
SN761027DL
ELECTRONIC VOLUME
FM(100%):-16dBs
MW/LW(30%):-26dBs
TAPE:-15dBs
CD:-1.1dBs
TAPE:-3.9dBs
CD:+10dBs
FM:+9.1dBs
MW/LW:-0.9dBs
IP-BUS DRIVER
MUTE
B.U.SENSE
ACC SENSE
5V REGULATOR
AUDIO REGULATOR 8.5V
BACK UP
GND
ACC
B REMOTE
IP BUS IN
CD:+2.2dBs (1kHz, 0dB)
IP-BUS
IC601
PD4872B
SYSTEM CONTROLLER
ANISM WITCH
DPDT
VOL + | LEFT ◁ | SOURCE | RIGHT ▷
CH3 | CH2 | CH1 | PTY
BAND | TA/AF | <P> | DISP/CLOCK
UP △ | CH6 | DOWN ▽ | CH4
FUNC | AUDIO | CH5 | VOL -
KST0 KST1 KST2 KST3 KST4 KDT3 KDT2 KDT1 KDT0
IC901 PD6196A
LCD DRIVER
LCD901
KEH-P3700R/X1M/EW CAW1383
KEH-P3730R/X1M/EW CAW1391
LCD, 1/4Duty, 1/3Bias
D KEYBOARD UNIT

Fig. 4

A D 11

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1 2 3 4

A-a A-b

TAPE SIGNAL
FM/MW/LW SIGNAL
CD SIGNAL
TAPE, FM/MW/LW, CD SIGNAL

TUNER AMP UNIT

FM/AM TUNER UNIT

IP-BUS ISOLATOR

PM2007A PLL IC

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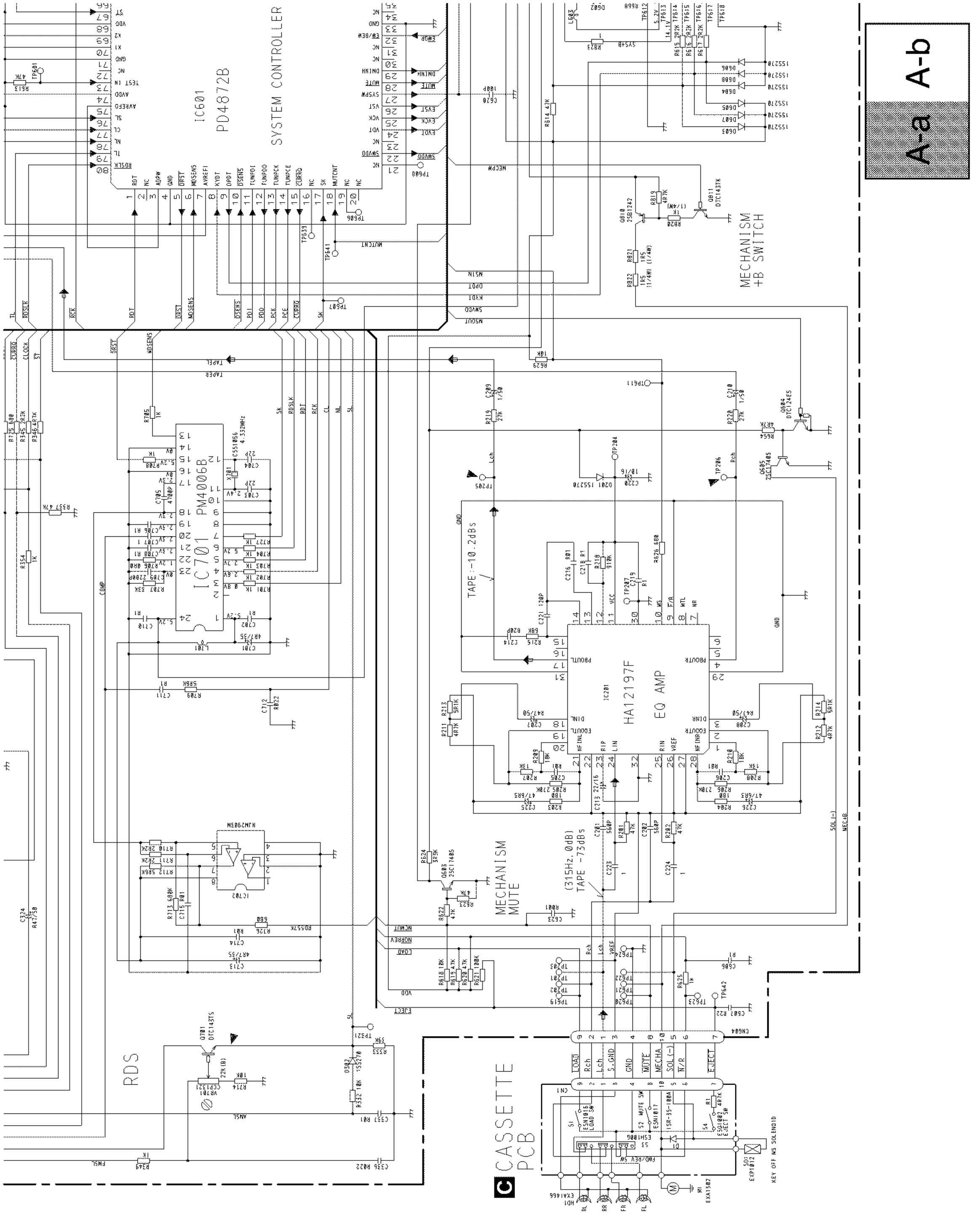

Fig. 5

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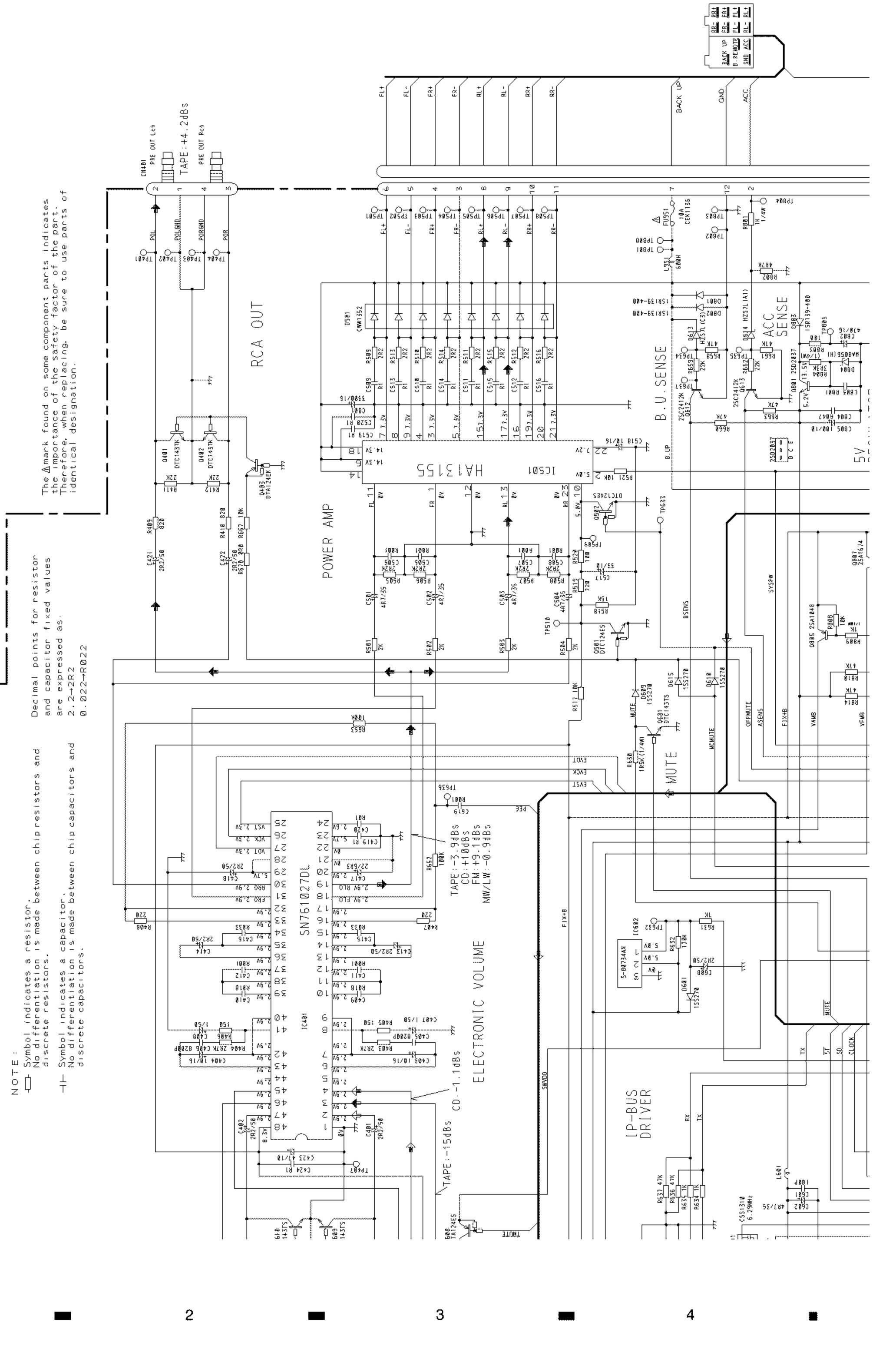
A-b
A-a



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Decimal points for resistor and capacitor fixed values are expressed as.
2.2→2R2
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NOTE:
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A-a A-b

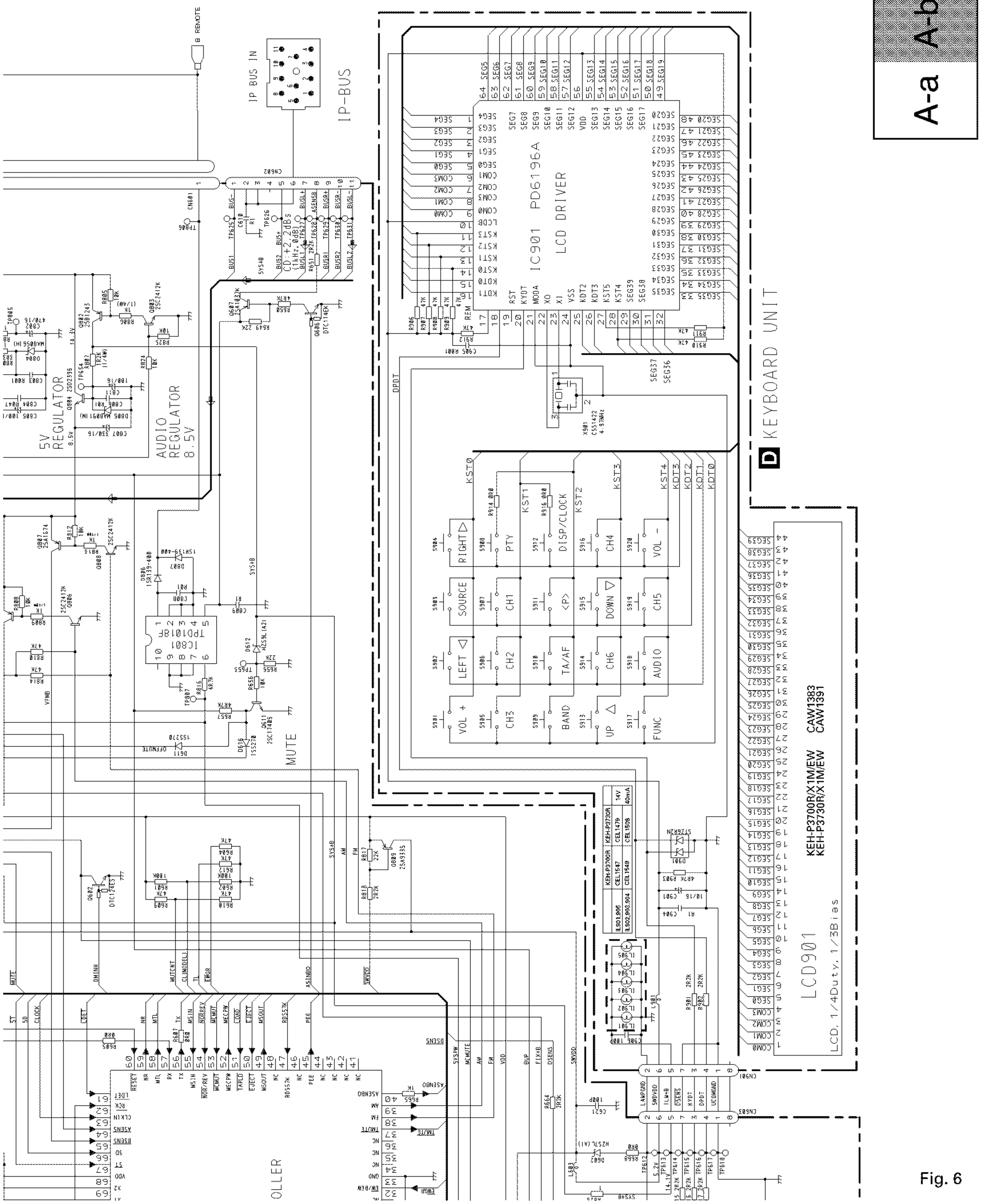

Fig. 6

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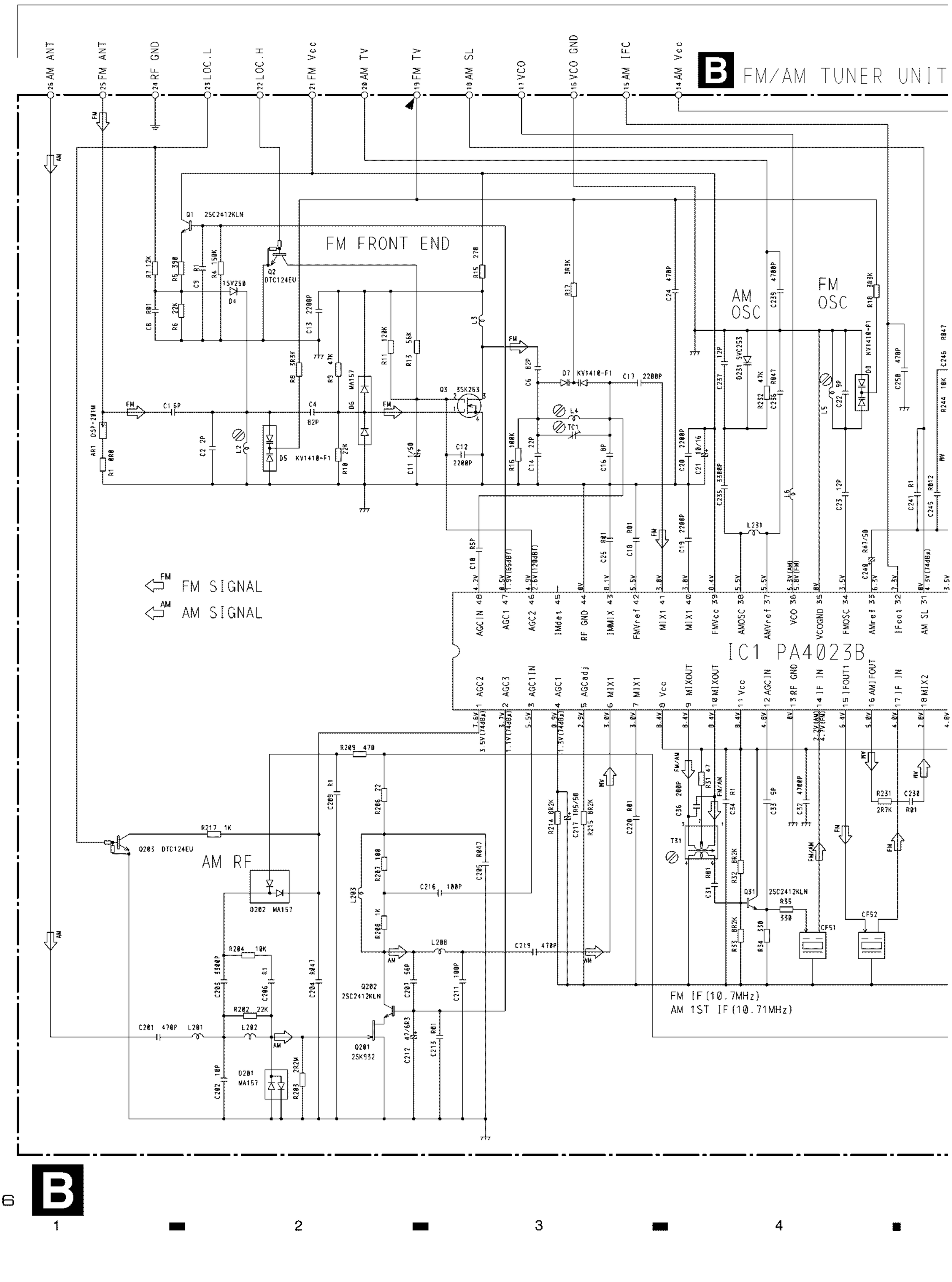
3.2 FM/AM TUNER UNIT

B FM/AM TUNER UNIT



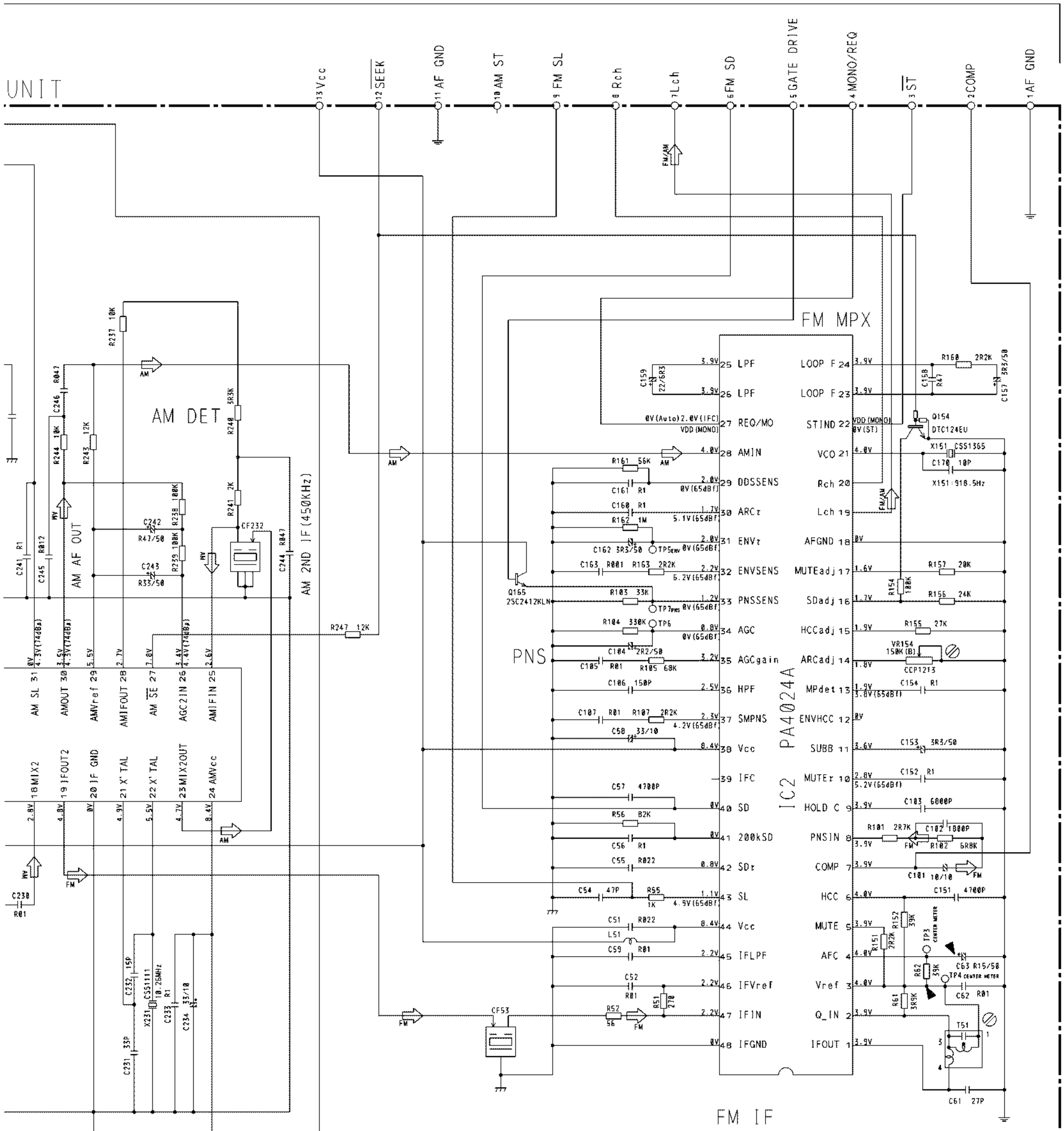

UNIT
13 Vcc
12 SEEK
11 AF GND
10 AM ST
9 FM SL
8 Rch
7 Lch
6 FM SD
5 GATE DRIVE
4 MONO/REQ
3 ST
2 COMP
1 AF GND
AM DET
AM AF OUT
AM 2ND IF(450KHz)
FM MPX
PNS
IC2 PA4024A
FM IF
AM SL 31
AMOUT 30
AMVref 29
AMIFOUT 28
AM SE 27
AGC2IN 26
AMIFIN 25
18 MIX2
19 IFOUT2
20 IF GND
21 X'TAL
22 X'TAL
23 MIX2OUT
24 AMVcc
25 LPF
26 LPF
27 REQ/MO
28 AMIN
29 ODSSENS
30 ARCτ
31 ENVτ
32 ENVSENS
33 PNSSENS
34 AGC
35 AGCgain
36 HPF
37 SMPNS
38 Vcc
39 IFC
40 SD
41 200kSD
42 SDτ
43 SL
44 Vcc
45 IFLPF
46 IFVref
47 IFIN
48 IFGND
LOOP F 24
LOOP F 23
STIND 22
VCO 21
Rch 20
Lch 19
AFGND 18
MUTEadj 17
SDadj 16
HCCadj 15
ARCadj 14
MPdet 13
ENVHCC 12
SUBB 11
MUTEτ 10
HOLD C 9
PNSIN 8
COMP 7
HCC 6
MUTE 5
AFC 4
Vref 3
Q_IN 2
IFOUT 1
Q154 DTC124EU
X151 CSS1365
X151:918.5Hz
Q165 2SC2412KLN
CF232
CF53
X231 CSS1111 10.25MHz
T51
VR154 150K(B) CCP1213
TP3 CENTER METER
TP4 CENTER METER
TP5ENV
TP6
TP7PNS
AM
FM
FM/AM
MW

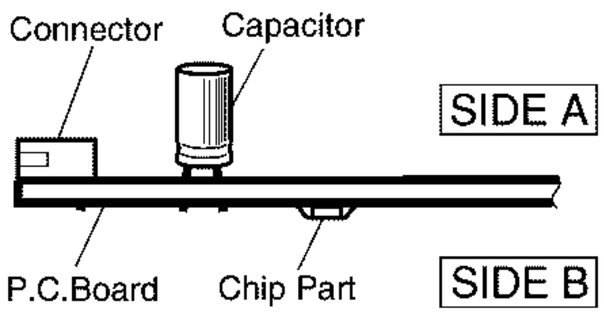
Fig. 7

4. PCB CONNECTION DIAGRAM

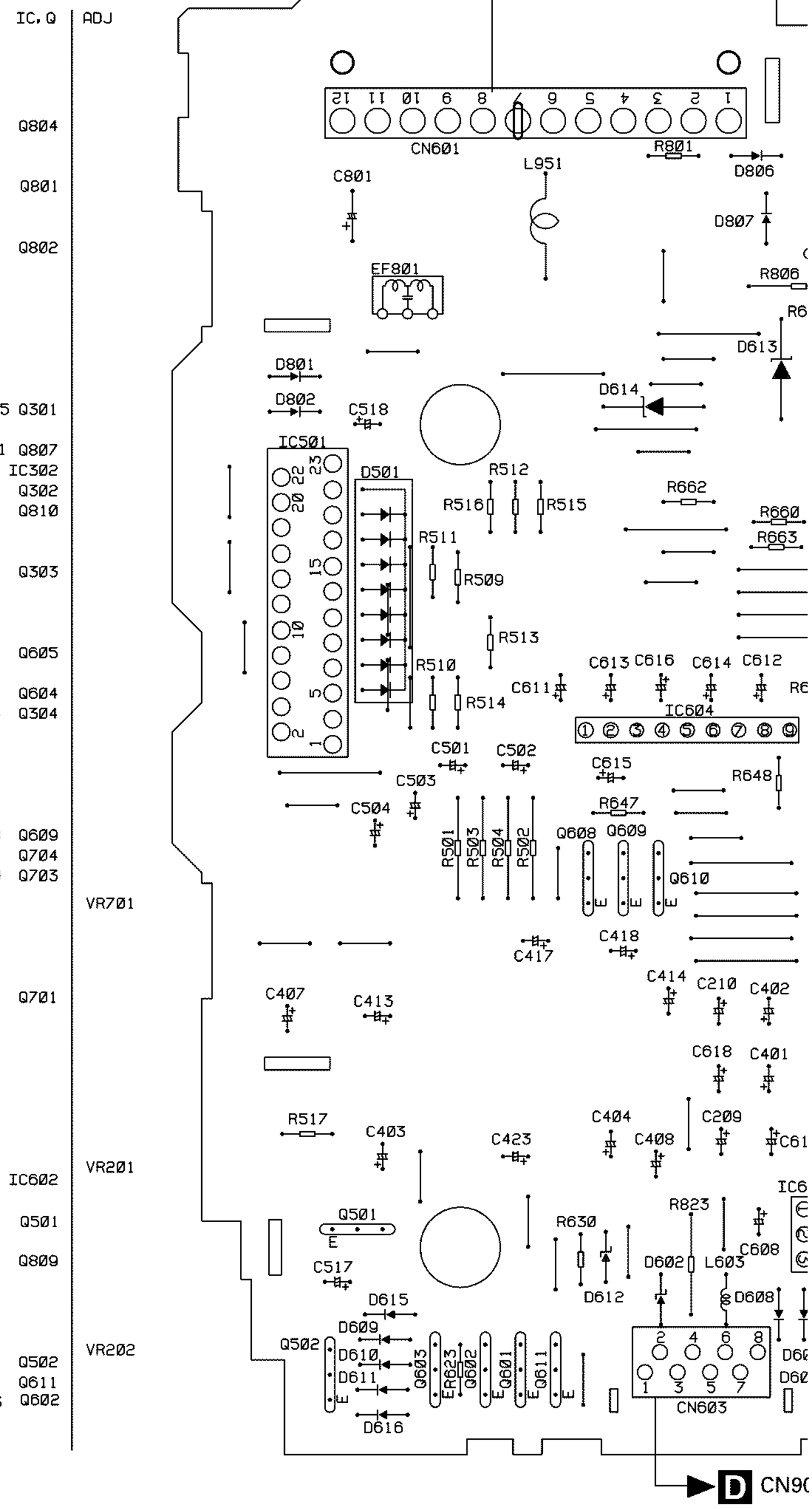
4.1 TUNER AMP UNIT

NOTE FOR PCB DIAGRAMS

1. The parts mounted on this PCB include all necessary parts for several destination.
   For further information for respective destinations, be sure to check with the schematic diagram.
2. Viewpoint of PCB diagrams



A TUNER AMP UNIT



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SIDE A

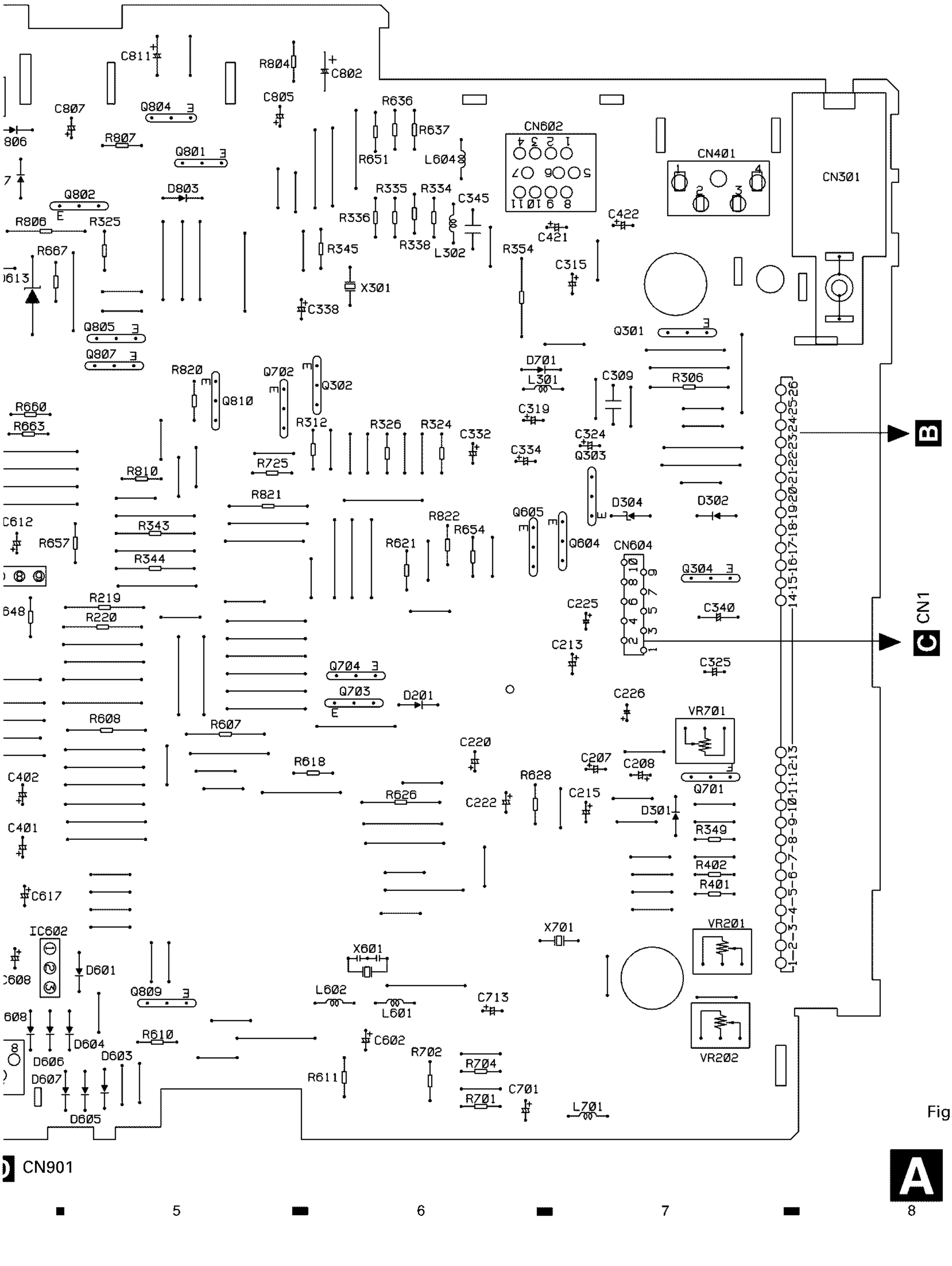
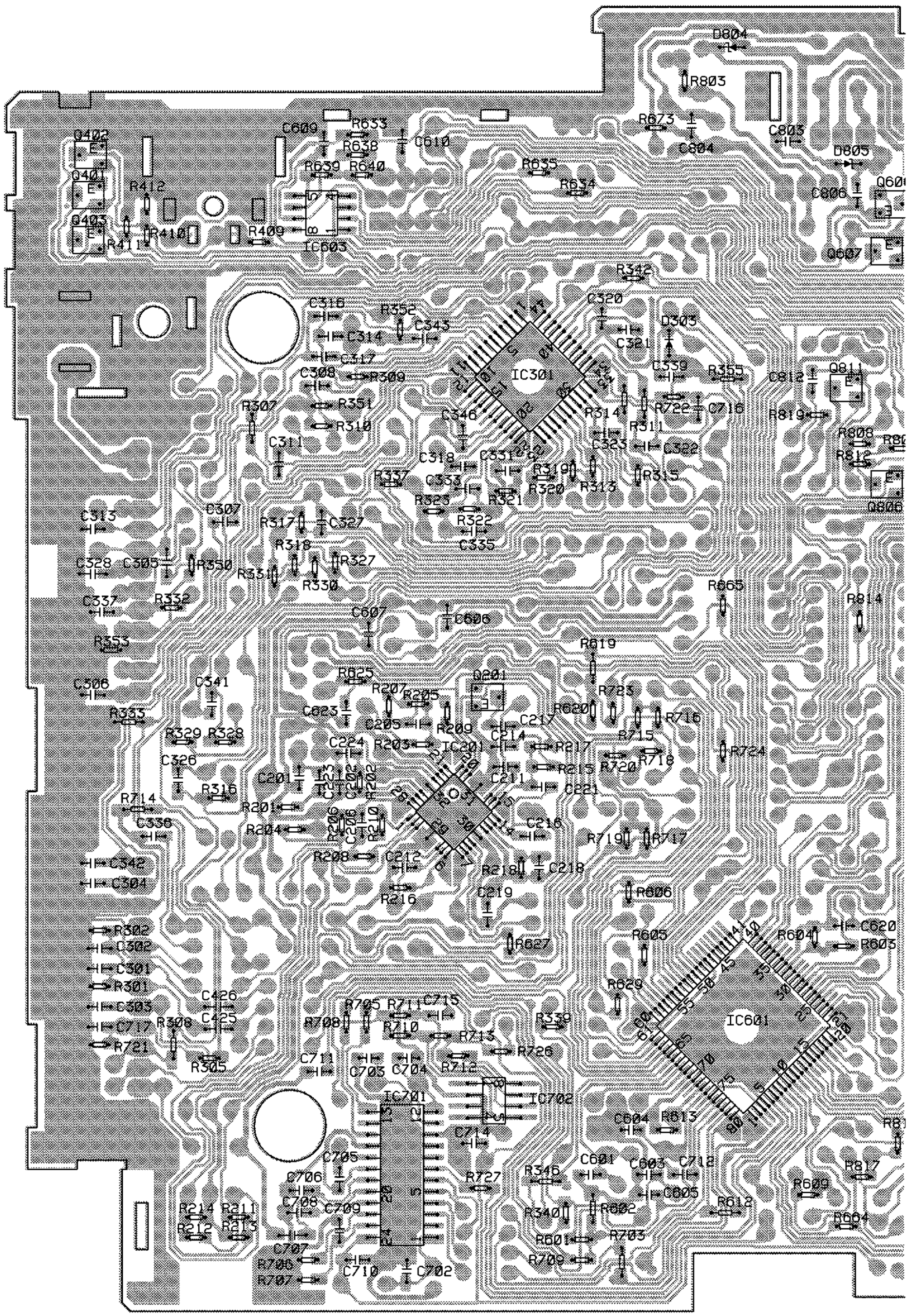

C811
R804
C802
C805
C807
Q804
R807
Q801
Q802
D803
R806
R325
R667
Q805
Q807
R820
Q810
Q702
Q302
R660
R663
R810
R312
R326
R324
C332
R725
R821
R822
R654
R621
R636
R637
R651
L604
R335
R334
C345
R336
R338
L302
R345
X301
C338
CN602
CN401
CN301
C422
C421
R354
C315
Q301
D701
L301
C309
R306
C319
C324
Q303
C334
D304
D302
Q605
Q604
CN604
Q304
C225
C340
C213
C325
C226
VR701
C207
C208
Q701
R628
C215
D301
R349
R402
R401
C222
C220
R618
R626
R607
R608
C402
C401
C617
IC602
D601
C608
Q809
L602
L601
C713
R610
C602
R702
R704
R701
C701
L701
R611
D604
D606
D603
D607
D605
R219
R220
R343
R344
R657
C612
R648
Q704
Q703
D201
X701
X601
VR201
VR202
CN901
CN1
20-21-22-23-24-25-26
14-15-16-17-18-19-20
1-2-3-4-5-6-7-8-9-10-11-12-13

Fig. 8

A TUNER AMP UNIT



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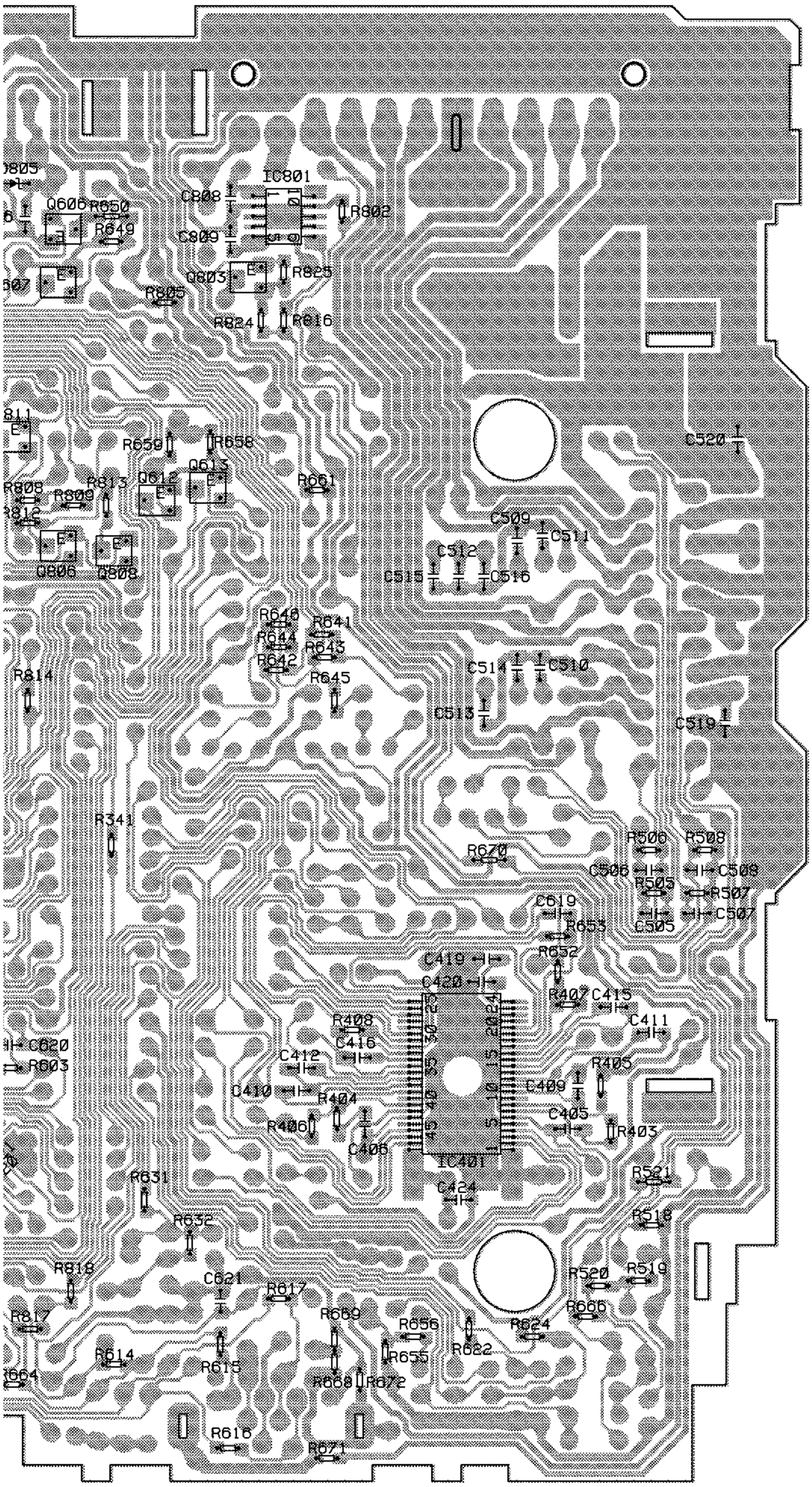

SIDE B

IC, Q

Q402

Q401 Q606
IC801

Q403

Q607 Q803
IC603

Q811
IC301

Q613
Q612

Q806
Q808

Q201

IC201

IC401
IC601

IC701
IC702

Fig. 9

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4.2 FM/AM TUNER UNIT

SIDE A

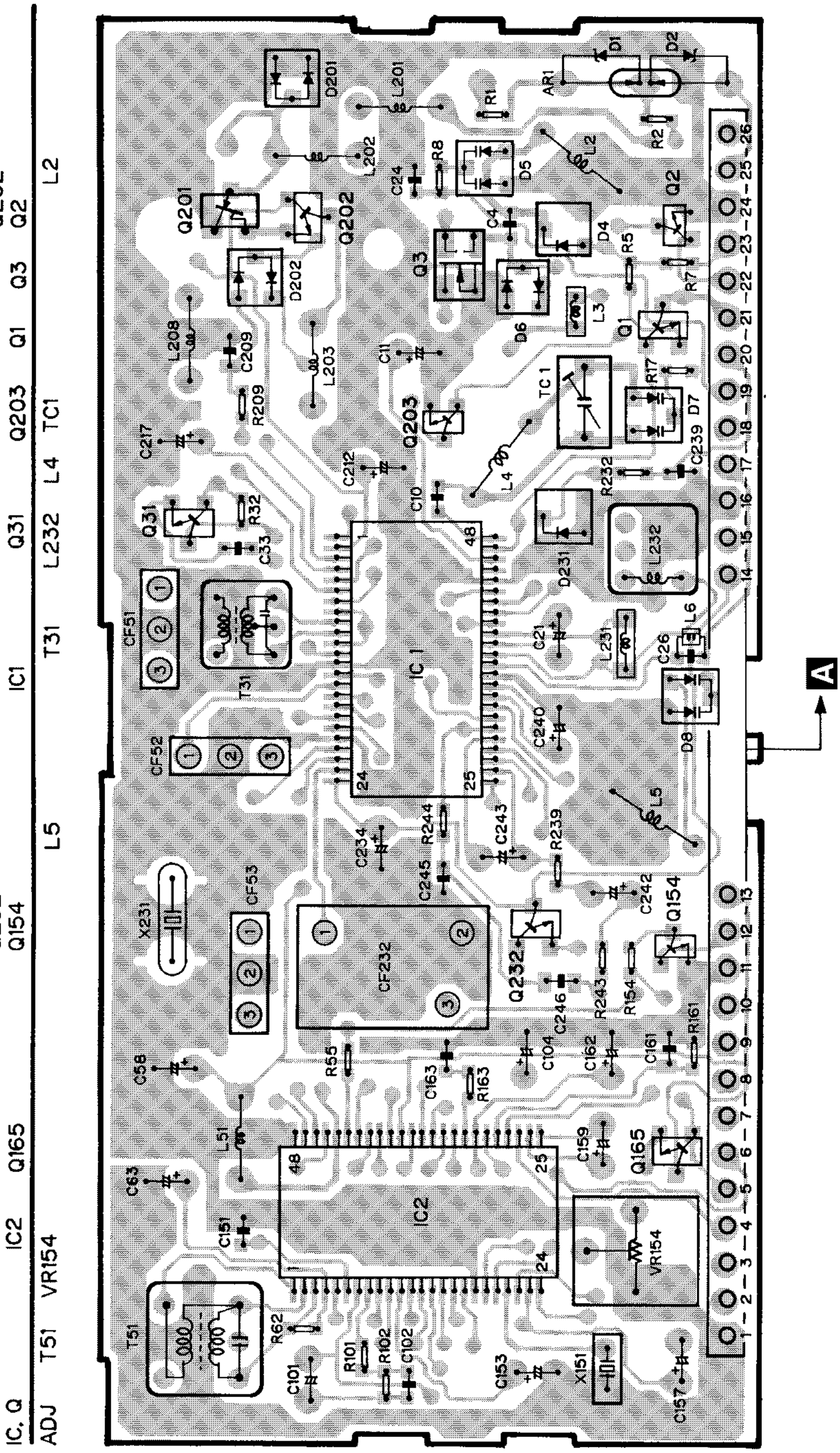

Fig. 10

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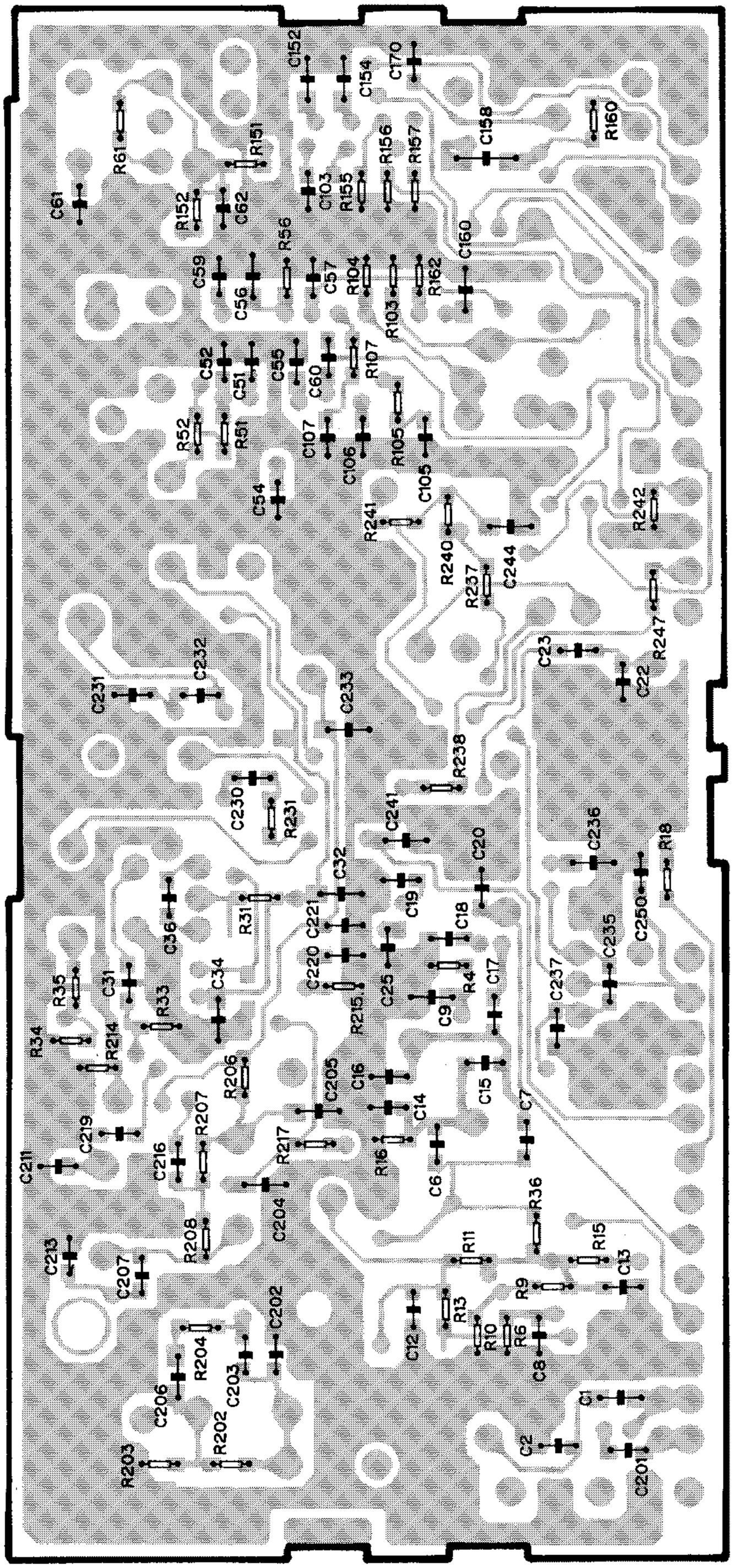
SIDE B



B FM/AM TUNER UNIT

Fig. 11

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4.3 KEYBOARD UNIT

SIDE A

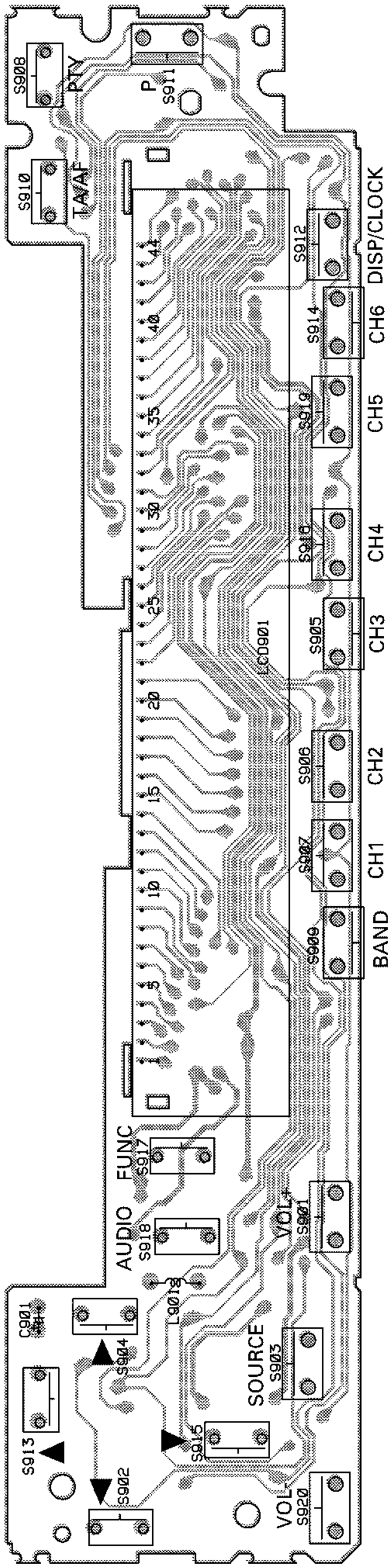

Fig. 12

SIDE B

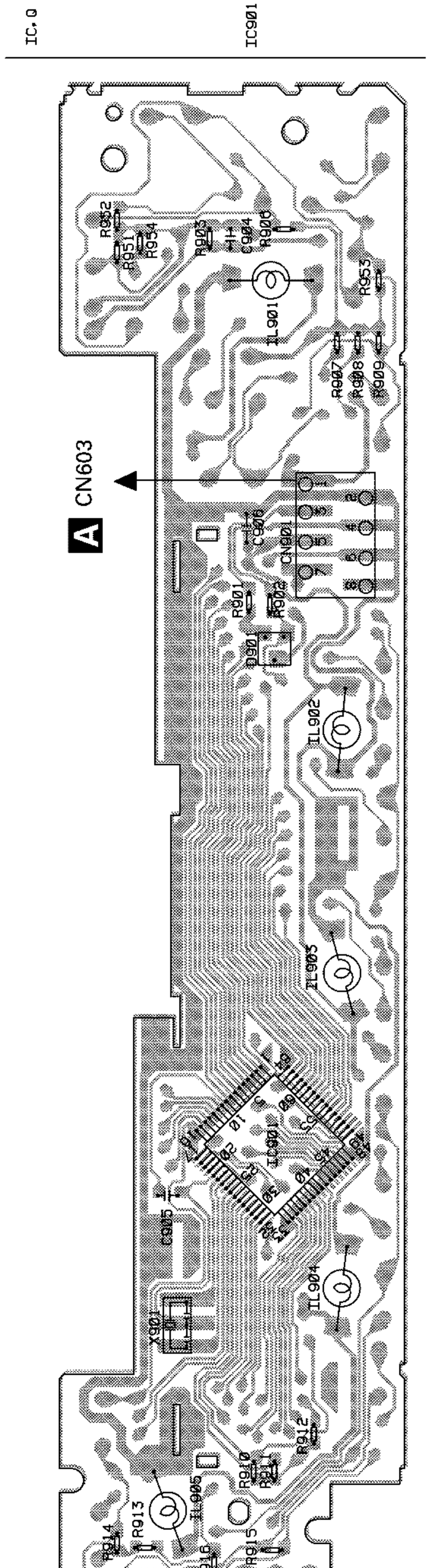

Fig. 13

4.4 CASSETTE PCB

C CASSETTE PCB

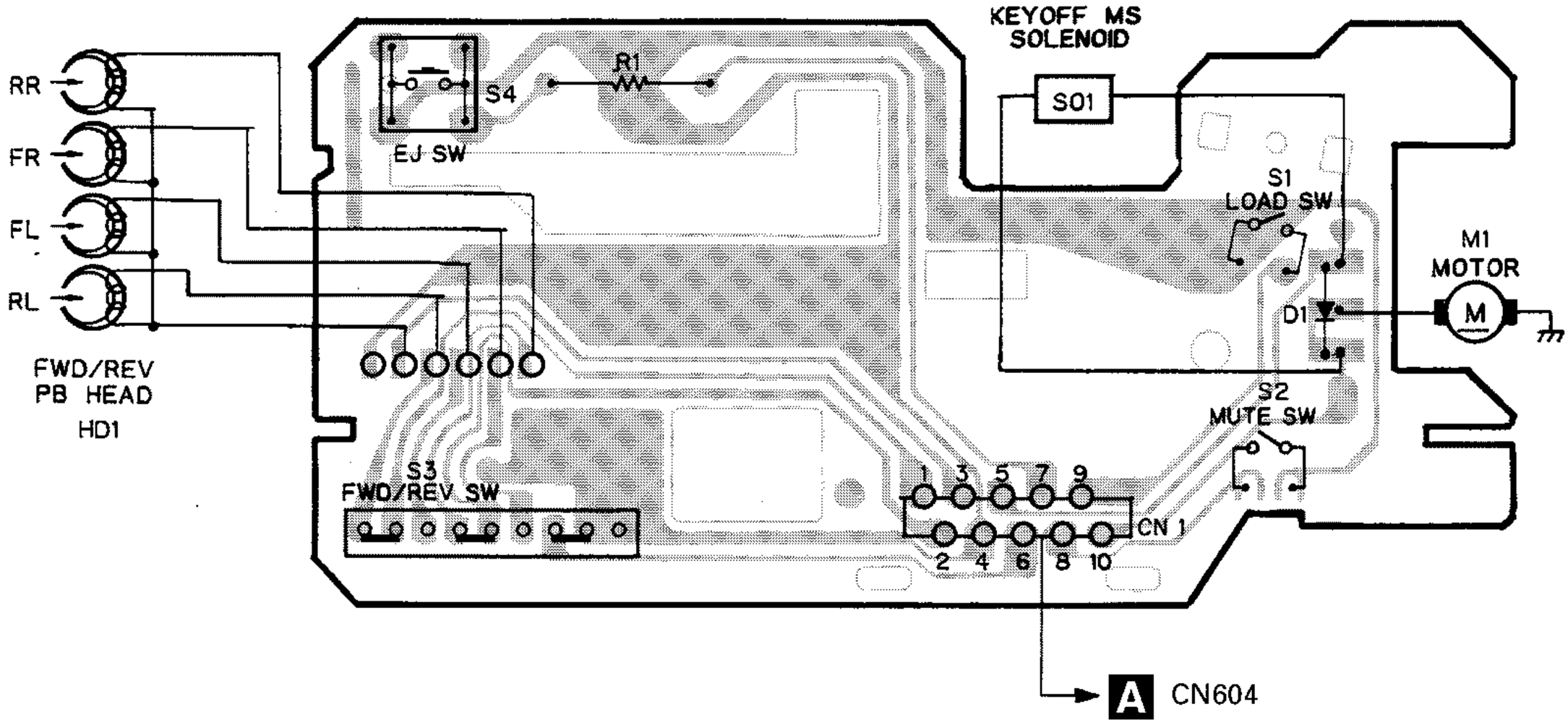

Fig. 14

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ELECTRICAL PARTS LIST

NOTE:

- Parts whose parts numbers are omitted are subject to being not supplied.
- The part numbers shown below indicate chip components.

  Chip Resistor

  RS1/○S○○○J,RS1/○○S○○○J

  Chip Capacitor (except for CQS.....)

  CKS....., CCS....., CSZS.....

B Unit Number : CWE1466
Unit Name : FM/AM Tuner Unit

MISCELLANEOUS

=====Circuit Symbol and No.		===Part Name	Part No.
IC	1	IC	PA4023B
IC	2	IC	PA4024A
Q	1	Transistor	2SC2412KLN
Q	2	Transistor	DTC124EU
Q	3	FET	3SK263
Q	31	Transistor	2SC2412KLN
Q	154	Transistor	DTC124EU
Q	165	Transistor	2SC2412KLN
Q	201	FET	2SK932
Q	202	Transistor	2SC2412KLN
Q	203	Transistor	DTC124EU
D	4	Diode	1SV250
D	5	Diode	KV1410-F1
D	6	Diode	MA157
D	7	Diode	KV1410-F1
D	8	Diode	KV1410-F1
D	201	Diode	MA157
D	202	Diode	MA157
D	231	Diode	SVC253
L	2	Coil	CTC1133
L	3	Inductor	LCTB2R2K2125
L	4	Coil	CTC1133
L	5	Coil	CTC1132
L	6	Inductor	LCTBR15K1608
L	51	Ferri-Inductor	LAU150K
L	201	Ferri-Inductor	LAU4R7K
L	202	Ferri-Inductor	LAU330K
L	203	Inductor	CTF1287
L	208	Inductor	LAU121K
L	231	Inductor	LCTA3R3J3225
T	31	Coil	CTE1116
T	51	Coil	CTC1136
TC	1	Capacitor	CCL1038
CF	51	Ceramic Filter	CTF1292
CF	52	Ceramic Filter	CTF1292
CF	53	Ceramic Filter	CTF1292
CF	232	Ceramic Filter	CTF1348
X	151	Resonator 920.5kHz	CSS1365
X	231	Crystal Resonator 10.26MHz	CSS1111
VR	154	Semi-fixed 150kΩ(B)	CCP1213
AR	1	Capacitor with Discharge Gap	DSP-201M

RESISTORS

=====Circuit Symbol and No.		===Part Name	Part No.
R	1		RS1/16S0R0J
R	4		RS1/16S154J
R	5		RS1/16S391J
R	6		RS1/16S223J
R	7		RS1/16S123J
R	8		RS1/16S332J
R	9		RS1/16S473J
R	10		RS1/16S223J
R	11		RS1/16S124J
R	13		RS1/16S563J
R	15		RS1/16S271J
R	16		RS1/16S104J
R	17		RS1/16S332J
R	18		RS1/16S332J
R	31		RS1/16S470J
R	32		RS1/16S822J
R	33		RS1/16S822J
R	34		RS1/16S331J
R	35		RS1/16S331J
R	51		RS1/16S271J
R	52		RS1/16S560J
R	55		RS1/16S102J
R	56		RS1/16S823J
R	61		RS1/16S392J
R	62		RS1/16S393J
R	101		RS1/16S272J
R	102		RS1/16S682J
R	103		RS1/16S333J
R	104		RS1/16S334J
R	105		RS1/16S683J
R	107		RS1/16S222J
R	151		RS1/16S222J
R	152		RS1/16S393J
R	154		RS1/16S104J
R	155		RS1/16S273J
R	156		RS1/16S243J
R	157		RS1/16S203J
R	160		RS1/16S222J
R	161		RS1/16S563J
R	162		RS1/16S105J
R	163		RS1/16S222J
R	202		RS1/16S223J
R	203		RS1/16S225J
R	204		RS1/16S103J
R	206		RS1/16S220J
R	207		RS1/16S101J
R	208		RS1/16S102J
R	209		RS1/16S471J
R	214		RS1/16S822J
R	215		RS1/16S822J
R	217		RS1/16S102J
R	231		RS1/16S272J
R	232		RS1/16S473J
R	237		RS1/16S103J
R	238		RS1/16S104J
R	239		RS1/16S104J
R	240		RS1/16S332J
R	241		RS1/16S202J
R	243		RS1/16S123J
R	244		RS1/16S103J

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=====Circuit Symbol and No.	===	Part Name	Part No.
R	247		RS1/16S123J
CAPACITORS			
C	1		CCSQCH6R0D50
C	2		CCSRCK2R0C50
C	4		CCSRCH820J50
C	6		CCSRCH820J50
C	8		CKSRYB103K25
C	9		CKSQYB104K16
C	10		CCSRCKR50C50
C	11		CEJA1R0M50
C	12		CKSRYB222K50
C	13		CKSRYB222K50
C	14		CCSRCH220J50
C	16		CCSRCH8R0D50
C	17		CKSRYB222K50
C	18		CKSRYB103K25
C	19		CKSRYB222K50
C	20		CKSRYB222K50
C	21		CEJA100M16
C	22		CCSRTH9R0D50
C	23		CCSRTH120J50
C	24		CCSRCH471J50
C	25		CKSRYB103K25
C	31		CKSRYB103K25
C	32		CKSQYB472K50
C	33		CCSRCH5R0C50
C	34		CKSQYB104K16
C	36		CCSRRH201J50
C	51		CKSRYB223K25
C	52		CKSRYB103K25
C	54		CCSRCH470J50
C	55		CKSQYB223K25
C	56		CKSQYB104K16
C	57		CKSRYB472K50
C	58		CEJA330M10
C	59		CKSRYB103K25
C	61		CCSRCH270J50
C	62		CKSRYB103K25
C	63		CEJAR15M50
C	101		CEJANP100M10
C	102		CKSRYB182K50
C	103		CKSRYB682K25
C	104		CEJA2R2M50
C	105		CKSRYB103K25
C	106		CCSRCH151J50
C	107		CKSRYB103K25
C	151		CKSRYB472K50
C	152		CKSQYB104K16
C	153		CEJA3R3M50
C	154		CKSQYB104K16
C	157		CEJA3R3M50
C	158		CKSYB474K16
C	159		CEJA220M6R3
C	160		CKSQYB104K16
C	161		CKSQYB104K16
C	162		CEJA3R3M50
C	163		CKSRYB102K50
C	170		CCSRCH100D50
C	201		CCSRCH471J50
C	202		CCSRCH100D50
C	203		CKSRYB332K50
C	204		CKSQYB473K16
C	205		CKSQYB473K16
C	206		CKSQYB104K16
C	207		CCSRCH560J50
C	209		CKSQYB104K16
C	211		CCSRCH101J50

=====Circuit Symbol and No.	===	Part Name	Part No.
C	212		CEJA470M6R3
C	213		CKSRYB103K25
C	216		CCSRCH101J50
C	217		CEJA1R5M50
C	219		CCSRCH471J50
C	220		CKSRYB103K25
C	230		CKSRYB103K25
C	231		CCSRCH330J50
C	232		CCSRCH150J50
C	233		CKSQYB104K16
C	234		CEJA330M10
C	235		CKSRYB332K50
C	236		CKSQYB473K16
C	237		CCSRCH120J50
C	239		CKSRYB472K50
C	240		CEJAR47M50
C	241		CKSQYB104K16
C	242		CEJAR47M50
C	243		CEJAR33M50
C	244		CKSQYB473K16
C	245		CKSRYB123K25
C	246		CKSQYB473K16
C	250		CCSRCH471J50

A

Unit Number: CWM5514(KEH-P3700R/X1M/EW)
Unit Number: CWM5515(KEH-P3730R/X1M/EW)
Unit Name : Tuner Amp Unit

MISCELLANEOUS

IC	201	IC	HA12197F
IC	301	IC	PM2007A
IC	401	IC	SN761027DL
IC	501	IC	HA13155
IC	601	IC	PD4872B
IC	602	IC	S-80734AN
IC	603	IC	CA0008AM
IC	604	IC	TA2050S
IC	701	IC	PM4006B
IC	702	IC	NJM2903M
IC	801	IC	TPD1018F
Q	301	Transistor	2SC1740S
Q	401	Transistor	DTC143TK
Q	402	Transistor	DTC143TK
Q	403	Transistor	DTA124EK
Q	501	Transistor	DTC124ES
Q	502	Transistor	DTC124ES
Q	601	Transistor	DTC143TS
Q	602	Transistor	DTC124ES
Q	603	Transistor	2SC1740S
Q	604	Transistor	DTC124ES
Q	605	Transistor	2SC1740S
Q	606	Transistor	DTC114EK
Q	607	Transistor	2SA1037K
Q	608	Transistor	DTA124ES
Q	609	Transistor	DTC143TS
Q	610	Transistor	DTC143TS
Q	611	Transistor	2SC1740S
Q	612	Transistor	2SC2412K
Q	613	Transistor	2SC2412K
Q	701	Transistor	DTC143TS
Q	702	Transistor	2SC1740S
Q	703	Transistor	2SD1468S
Q	704	Transistor	2SD1468S
Q	801	Transistor	2SD2037
Q	802	Transistor	2SB1243
Q	803	Transistor	2SC2412K
Q	804	Transistor	2SD2396
Q	805	Transistor	2SA1048
Q	806	Transistor	2SC2412K

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Circuit Symbol and No.		Part Name	Part No.
Q	807	Transistor	2SA1674
Q	808	Transistor	2SC2412K
Q	809	Transistor	2SA933S
Q	810	Transistor	2SB1242
Q	811	Transistor	DTC143TK
D	201	Diode	1SS270
D	302	Diode	1SS270
D	501	Compound Parts	CWW1352
D	601	Diode	1SS270
D	602	Diode	HZS7L(A1)
D	603	Diode	1SS270
D	604	Diode	1SS270
D	605	Diode	1SS270
D	606	Diode	1SS270
D	607	Diode	1SS270
D	608	Diode	1SS270
D	609	Diode	1SS270
D	610	Diode	1SS270
D	611	Diode	1SS270
D	612	Diode	HZS9L(A2)
D	613	Diode	HZS7L(C3)
D	614	Diode	HZS7L(A1)
D	615	Diode	1SS270
D	616	Diode	1SS270
D	701	Diode	1SS270
D	801	Diode	1SR139-400
D	802	Diode	1SR139-400
D	803	Diode	1SR139-400
D	804	Diode	MA8056(H)
D	805	Diode	MA8091(M)
D	806	Diode	1SR139-400
D	807	Diode	1SR139-400
L	301	Ferri-Inductor	LAU101K
L	302	Ferri-Inductor	LAU101K
L	601	Ferri-Inductor	LAU101K
L	602	Ferri-Inductor	LAU101K
L	603	Ferri-Inductor	LAU101K
L	604	Ferri-Inductor	LAU2R2K
L	701	Ferri-Inductor	LAU101K
L	951	Choke Coil 600H	CTH1168
X	301	Crystal Resonator 7.200MHz	CSS1379
X	601	Ceramic Resonator 6.29MHz	CSS1310
X	701	Crystal Resonator 4.332MHz	CSS1056
VR	701	Semi-fixed 22kΩ	CCP1321
FU	951	Fuse 10A	CEK1136
		FM/AM Tuner Unit	CWE1466

RESISTORS

Circuit Symbol and No.		Part Name	Part No.
R	201		RS1/10S473J
R	202		RS1/10S473J
R	203		RS1/10S181J
R	204		RS1/10S181J
R	205		RS1/10S274J
R	206		RS1/10S274J
R	207		RS1/10S133J
R	208		RS1/10S133J
R	209		RS1/10S183J
R	210		RS1/10S183J
R	211		RS1/10S472J
R	212		RS1/10S472J
R	213		RS1/10S512J
R	214		RS1/10S512J
R	215		RS1/10S683J
R	218		RS1/10S914J
R	219		RD1/4PU273J
R	220		RD1/4PU273J
R	301		RS1/10S272J
R	302		RS1/10S272J
R	305		RS1/10S0R0J
R	306		RD1/4PU222J
R	307		RS1/8S222J
R	308		RS1/8S222J
R	309		RS1/10S102J
R	310		RS1/10S0R0J
R	311		RS1/8S272J
R	312		RD1/4PU222J
R	314		RS1/8S392J
R	315		RS1/10S392J
R	316		RS1/10S152J
R	317		RS1/10S103J
R	318		RS1/10S0R0J
R	319		RS1/10S472J
R	320		RS1/10S682J
R	321		RS1/10S222J
R	322		RS1/10S472J
R	323		RS1/10S682J
R	324		RD1/4PU102J
R	326		RD1/4PU0R0J
R	328		RS1/10S561J
R	332		RS1/10S103J
R	333		RS1/8S393J
R	334		RD1/4PU562J
R	335		RD1/4PU472J
R	336		RD1/4PU473J
R	337		RS1/10S473J
R	338		RD1/4PU104J
R	339		RS1/10S473J
R	340		RS1/10S473J
R	341		RS1/10S681J
R	342		RS1/10S681J
R	343		RD1/4PU681J
R	344		RD1/4PU681J
R	345		RD1/4PU222J
R	346		RS1/8S472J
R	349		RD1/4PU102J
R	350		RS1/10S510J
R	352		RS1/10S0R0J
R	353		RS1/10S0R0J
R	354		RD1/4PU102J
R	355		RS1/8S0R0J
R	403		RS1/10S272J
R	404		RS1/10S272J
R	405		RS1/10S151J
R	406		RS1/10S151J
R	407		RS1/10S221J
R	408		RS1/10S221J
R	409		RS1/10S821J
R	410		RS1/10S821J
R	411		RS1/10S223J
R	412		RS1/10S223J
R	501		RD1/4PU202J
R	502		RD1/4PU202J
R	503		RD1/4PU202J
R	504		RD1/4PU202J
R	505		RS1/10S222J
R	506		RS1/10S222J
R	507		RS1/10S222J
R	508		RS1/10S222J
R	509		RD1/4PU2R2J
R	510		RD1/4PU2R2J
R	511		RD1/4PU2R2J
R	512		RD1/4PU2R2J
R	513		RD1/4PU2R2J

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=====Circuit Symbol and No.===Part Name		Part No.
R	514	RD1/4PU2R2J
R	515	RD1/4PU2R2J
R	516	RD1/4PU2R2J
R	517	RD1/4PU103J
R	518	RS1/10S153J
R	519	RS1/10S221J
R	520	RS1/10S101J
R	521	RS1/8S103J
R	601	RS1/10S104J
R	602	RS1/8S104J
R	604	RS1/10S473J
R	605	RS1/10S0R0J
R	607	RD1/4PU0R0J
R	610	RD1/4PU473J
R	612	RS1/8S473J
R	613	RS1/10S473J
R	614	RS1/10S473J
R	615	RS1/10S222J
R	616	RS1/10S222J
R	617	RS1/10S222J
R	618	RD1/4PU103J
R	619	RS1/8S473J
R	620	RS1/10S473J
R	621	RD1/4PU104J
R	622	RS1/10S473J
R	623	RD1/4PU473J
R	624	RS1/10S332J
R	625	RS1/10S102J
R	626	RD1/4PU681J
R	629	RS1/10S103J
R	630	RD1/4PU152J
R	631	RS1/10S102J
R	632	RS1/10S124J
R	633	RS1/10S102J
R	634	RS1/10S102J
R	635	RS1/10S102J
R	636	RD1/4PU473J
R	637	RD1/4PU473J
R	638	RS1/10S101J
R	639	RS1/10S101J
R	640	RS1/10S620J
R	641	RS1/10S181J
R	642	RS1/10S181J
R	643	RS1/10S223J
R	644	RS1/10S223J
R	645	RS1/10S102J
R	646	RS1/10S102J
R	647	RD1/4PU223J
R	648	RD1/4PU223J
R	649	RS1/10S223J
R	650	RS1/8S472J
R	651	RD1/4PU222J
R	652	RS1/10S104J
R	653	RS1/10S104J
R	654	RD1/4PU472J
R	655	RS1/10S223J
R	656	RS1/10S103J
R	657	RD1/4PU472J
R	658	RS1/10S473J
R	659	RS1/10S223J
R	660	RD1/4PU473J
R	661	RS1/10S473J
R	662	RD1/4PU223J
R	663	RD1/4PU473J
R	664	RS1/10S222J

=====Circuit Symbol and No.===Part Name		Part No.
R	665	RS1/10S102J
R	667	RD1/4PU103J
R	668	RS1/10S0R0J
R	670	RS1/8S0R0J
R	673	RS1/10S0R0J
R	701	RD1/4PU102J
R	702	RD1/4PU102J
R	703	RS1/8S102J
R	704	RD1/4PU102J
R	705	RS1/10S102J
R	706	RS1/10S0R0J
R	707	RS1/10S333J
R	708	RS1/10S102J
R	709	RS1/10S562J
R	710	RS1/10S222J
R	711	RS1/10S222J
R	712	RS1/10S562J
R	713	RS1/10S684J
R	714	RS1/8S103J
R	715	RS1/10S224J
R	716	RS1/10S224J
R	717	RS1/10S222J
R	718	RS1/10S222J
R	719	RS1/10S223J
R	720	RS1/10S223J
R	721	RS1/10S105J
R	722	RS1/10S224J
R	723	RS1/10S562J
R	724	RS1/10S681J
R	725	RD1/4PU681J
R	726	RS1/10S681J
R	727	RS1/10S102J
R	801	RD1/4PU102J
R	802	RS1/10S472J
R	803	RS1/10S101J
R	804	RD1/4PU332J
R	805	RS1/10S103J
R	806	RD1/4PU102J
R	807	RD1/4PU122J
R	808	RS1/10S103J
R	809	RS1/10S102J
R	810	RD1/4PU473J
R	812	RS1/10S103J
R	813	RS1/10S102J
R	814	RS1/10S473J
R	816	RS1/10S472J
R	817	RS1/10S223J
R	818	RS1/10S222J
R	819	RS1/10S472J
R	820	RD1/4PU102J
R	821	RD1/4PU1R5J
R	822	RD1/4PU1R5J
R	823	RD1/4PU1R0J
R	824	RS1/10S103J
R	825	RS1/10S103J

CAPACITORS

C	201	CKSQYB561K50
C	202	CKSQYB561K50
C	205	CKSQYB103K25
C	206	CKSQYB103K25
C	207	CEALR47M50
C	208	CEALR47M50
C	209	CEJA1R0M50
C	210	CEJA1R0M50
C	213	CEAL220M16
C	214	CKSQYB821K50

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Circuit Symbol and No.		Part Name	Part No.
C	216		CKSQYB103K25
C	218		CKSQYB104K16
C	219		CKSQYB104K16
C	220		CEAL100M16
C	221		CCSQCH121J50
C	223		CKSQYB105K10
C	224		CKSQYB105K10
C	225		CEAL470M6R3
C	226		CEAL470M6R3
C	301		CKSQYB223K25
C	302		CKSQYB223K25
C	303		CKSQYB223K25
C	307		CKSQYB103K25
C	308		CCSQCH101K50
C	311		CCSQCH101K50
C	313		CKSQYB223K25
C	314		CKSQYB103K25
C	315		CEAL220M6R3
C	316		CKSQYB103K25
C	317		CKSQYB103K25
C	318		CKSQYB102K50
C	319		CEAL220M16
C	320		CCSQCH150J50
C	321		CCSQCH150J50
C	322		CKSQYB103K25
C	324		CEALR47M50
C	325	4.7µF/16V	CCH1250
C	326		CKSQYB103K25
C	328		CKLSR473K16
C	331		CKSQYB104K16
C	332		CEAL220M6R3
C	333		CKSQYB103K25
C	334		CEAL220M6R3
C	335		CKSQYB103K25
C	336		CKSQYB223K25
C	337		CKSQYB103K25
C	340	4.7µF/16V	CCH1165
C	341		CKSQYB103K25
C	342		CKSQYB473K16
C	343		CKSQYB102K50
C	401		CEJA2R2M50
C	402		CEJA2R2M50
C	403		CEJA100M16
C	404		CEJA100M16
C	405		CKSQYB822K50
C	406		CKSQYB822K50
C	407		CEJA1R0M50
C	408		CEJA1R0M50
C	409		CKSQYB183K25
C	410		CKSQYB183K25
C	411		CKSQYB102K50
C	412		CKSQYB102K50
C	413		CEJA2R2M50
C	414		CEJA2R2M50
C	415		CKSQYB333K25
C	416		CKSQYB333K25
C	417		CEJA220M6R3
C	418		CEJA2R2M50
C	419		CKSQYB104K16
C	420		CKSQYB103K25
C	421		CEJA2R2M50
C	422		CEJA2R2M50
C	423		CEJA470M10
C	424		CKSQYB104K16
C	425		CKSYB105K16
C	426		CKSYB105K16
C	501		CEJA4R7M35
C	502		CEJA4R7M35
C	503		CEJA4R7M35
C	504		CEJA4R7M35
C	505		CKSQYB102K50
C	506		CKSQYB102K50
C	507		CKSQYB102K50
C	508		CKSQYB102K50
C	509		CKSQYB104K16
C	510		CKSQYB104K16
C	511		CKSQYB104K16
C	512		CKSQYB104K16
C	513		CKSQYB104K16
C	514		CKSQYB104K16
C	515		CKSQYB104K16
C	516		CKSQYB104K16
C	517		CEJA330M10
C	518		CEJA100M16
C	519		CKSQYB104K16
C	520		CKSQYB104K16
C	601		CCSQCH101K50
C	602		CEAL4R7M35
C	604		CCSQCH101K50
C	606		CKSQYB104K16
C	607		CKSQYB224K16
C	608		CEJA2R2M50
C	609		CKSQYB102K50
C	610		CKSQYB104K16
C	611		CEJA1R0M50
C	612		CEJA1R0M50
C	613		CEJA1R0M50
C	614		CEJA1R0M50
C	615		CEJA100M16
C	616		CEJA100M16
C	617		CEJA4R7M35
C	618		CEJA4R7M35
C	619		CKSQYB102K50
C	620		CCSQCH101K50
C	621		CCSQCH101J50
C	623		CKSQYB102K50
C	701		CEAL4R7M35
C	702		CKSQYB104K16
C	703		CCSQCH220J50
C	704		CCSQCH220J50
C	705		CKSQYB472K50
C	706		CKSQYB104K16
C	707		CKSYB105K16
C	708		CKSQYB104K16
C	709		CKSQYB222K50
C	710		CKSQYB104K16
C	711		CKSQYB104K16
C	712		CKSQYB223K25
C	713		CEAL4R7M35
C	714		CKSQYB103K25
C	715		CKSQYB103K25
C	716		CKSQYB223K25
C	717		CKSQYB471K50
C	801	3300µF/16V	CCH1018
C	802	470µF/16V	CCH1183
C	803		CKSQYB102K50
C	804		CKSQYB473K16
C	805		CEJA101M10
C	806		CKSQYB103K25
C	807	330µF/10V	CCH1181

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=====Circuit Symbol and No.===Part Name			Part No.
C	808		CKSQYB103K25
C	809		CKSQYB104K16
C	811	100µF/16V	CCH1179

D Unit Number: CWM5523(KEH-P3700R/X1M/EW)
Unit Name : Keyboard Unit

MISCELLANEOUS

IC	901	IC	PD6196A
D	901	Diode	STZ6R2N
L	901	Ferri-Inductor	LAU101K
X	901	Ceramic Resonator 4.970MHZ	CSS1422
S	901	Push Switch	CSG1093
S	902	Switch	CSG1081
S	903	Push Switch	CSG1093
S	904	Switch	CSG1081
S	905	Push Switch	CSG1093
S	906	Push Switch	CSG1093
S	907	Push Switch	CSG1093
S	908	Switch	CSG1081
S	909	Push Switch	CSG1093
S	910	Switch	CSG1081
S	911	Push Switch	CSG1093
S	912	Push Switch	CSG1093
S	913	Switch	CSG1081
S	914	Push Switch	CSG1093
S	915	Switch	CSG1081
S	916	Push Switch	CSG1093
S	917	Switch	CSG1081
S	918	Switch	CSG1081
S	919	Push Switch	CSG1093
S	920	Push Switch	CSG1093
IL	901	Lamp 14V,40mA	CEL1547
IL	902	Lamp 14V,40mA	CEL1549
IL	903	Lamp 14V,40mA	CEL1549
IL	904	Lamp 14V,40mA	CEL1549
IL	905	Lamp 14V,40mA	CEL1547
LCD	901	LCD	CAW1383

RESISTORS

R	901	RS1/10S222J
R	902	RS1/10S222J
R	903	RS1/10S472J
R	906	RS1/10S473J
R	907	RS1/10S473J
R	908	RS1/10S473J
R	909	RS1/10S473J
R	910	RS1/10S473J
R	911	RS1/10S473J
R	912	RS1/10S473J
R	914	RS1/10S0R0J
R	916	RS1/10S0R0J

CAPACITORS

C	901	CEAL100M16
C	904	CKSQYB104K50
C	905	CKSQYB102K50
C	906	CCSCH101J50

D Unit Number: CWM5524(KEH-P3730R/X1M/EW)
Unit Name : Keyboard Unit

MISCELLANEOUS

IC	901	IC	PD6196A
D	901	Diode	STZ6R2N
L	901	Ferri-Inductor	LAU101K
X	901	Ceramic Resonator 4.970MHZ	CSS1422
S	901	Push Switch	CSG1093

=====Circuit Symbol and No.===Part Name			Part No.
S	902	Switch	CSG1081
S	903	Push Switch	CSG1093
S	904	Switch	CSG1081
S	905	Push Switch	CSG1093
S	906	Push Switch	CSG1093
S	907	Push Switch	CSG1093
S	908	Switch	CSG1081
S	909	Push Switch	CSG1093
S	910	Switch	CSG1081
S	911	Push Switch	CSG1093
S	912	Push Switch	CSG1093
S	913	Switch	CSG1081
S	914	Push Switch	CSG1093
S	915	Switch	CSG1081
S	916	Push Switch	CSG1093
S	917	Switch	CSG1081
S	918	Switch	CSG1081
S	919	Push Switch	CSG1093
S	920	Push Switch	CSG1093
IL	901	Lamp 14V,40mA	CEL1479
IL	902	Lamp 14V,40mA	CEL1508
IL	903	Lamp 14V,40mA	CEL1508
IL	904	Lamp 14V,40mA	CEL1508
IL	905	Lamp 14V,40mA	CEL1479
LCD	901	LCD	CAW1391

RESISTORS

R	901	RS1/10S222J
R	902	RS1/10S222J
R	903	RS1/10S472J
R	906	RS1/10S473J
R	907	RS1/10S473J
R	908	RS1/10S473J
R	909	RS1/10S473J
R	910	RS1/10S473J
R	911	RS1/10S473J
R	912	RS1/10S473J
R	914	RS1/10S0R0J
R	916	RS1/10S0R0J

CAPACITORS

C	901	CEAL100M16
C	904	CKSQYB104K50
C	905	CKSQYB102K50
C	906	CCSCH101J50

C Unit Number :
Unit Name : Cassette PCB

D	1	Diode	1SR-35-100A
S	1	Switch(Load)	ESN1016
S	2	Switch(Mute)	ESN1017
S	3	Switch(FWD/REV)	ESH1006
S	4	Switch(Eject)	ESG1002
R	1		RD1/4HM472J

Miscellaneous Parts List

M	1	Motor Unit	EXA1502
HD	1	Head Assy	EXA1466
SO	1	Solenoid	EXP1012

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6. ADJUSTMENT

● Connection Diagram

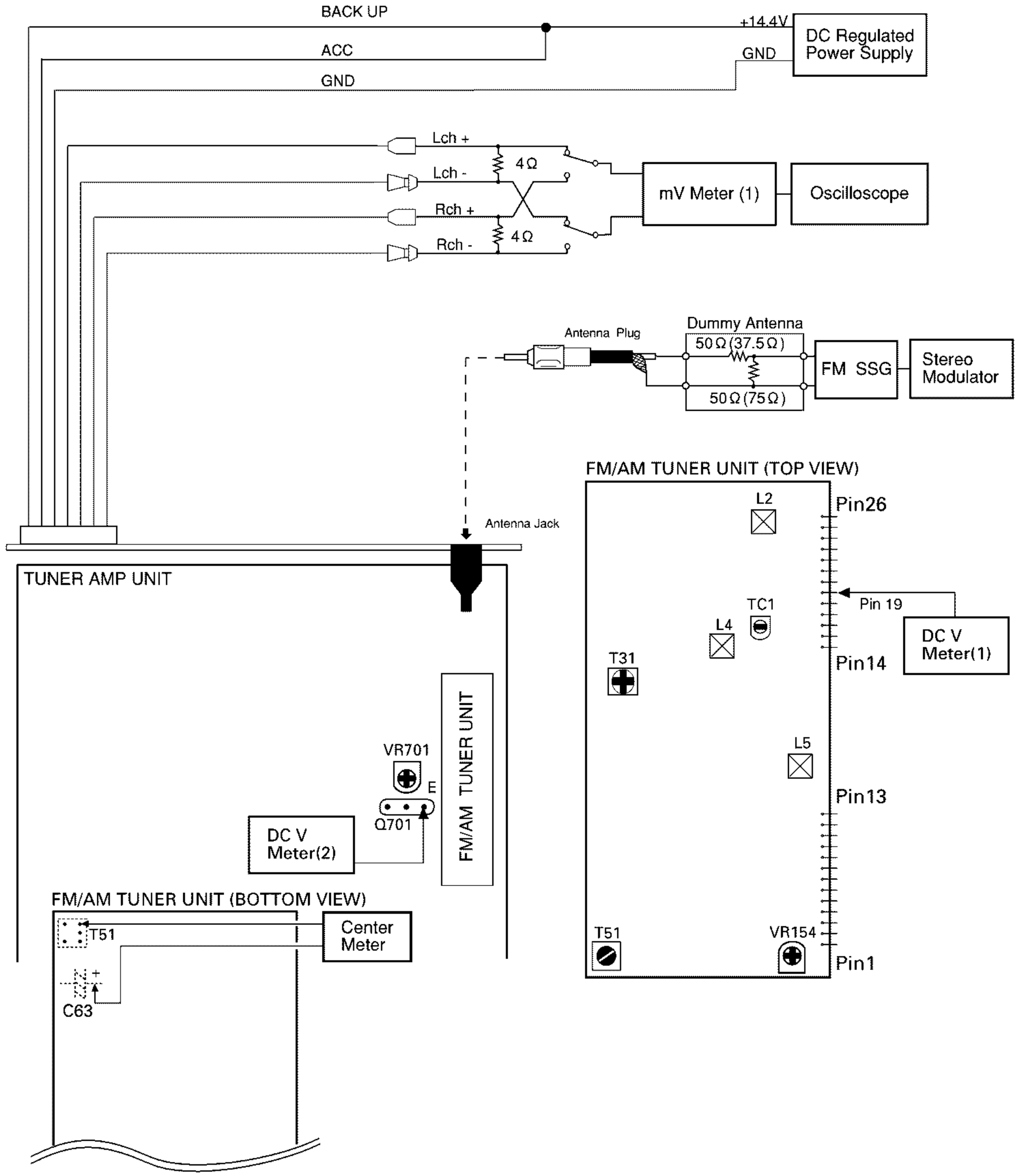

Fig. 15

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FM ADJUSTMENT

Modulation M:MONO MOD., 400Hz 30%(22.5kHz Dev.) or 400Hz 100%(75kHz Dev.)
S:STEREO MOD., 1kHz, L or R=30%(20.25kHz+7.5kHz Dev.)
S2:STEREO MOD., 400Hz, L or R=60%(40.50kHz+7.5kHz Dev.)

NOTE:Before proceeding to further adjustments after switching power ON, let the tuner run for ten minutes to allow the circuits to stabilize.

	No.	FM SSG		Displayed	Adjustment	Adjustment Method
		Frequency(MHz)	Level(dBf)	Frequency(MHz)	Point	(Switch Position)
TUN Volt	1	•••••	•••••	108.0	L5	DC V Meter(1) : 6V
IF	2	98.1 M	60	98.1	T51	Center Meter : 0
ANT Coil	3	98.1 M	5	98.1	L2	mV Meter(1) : Maximum
RF Coil	4	98.1 M	5	98.1	L4	mV Meter(1) : Maximum
Image	5	129.3 M	60—80	107.9	TC1	mV Meter(1) : Minimum
IFT	6	98.1 M	5	98.1	T31	mV Meter(1) : Maximum (STEREO MODE)
ARC	7	98.1 S	40	98.1	VR154	mV Meter(1) : Separation 5dB (STEREO MODE)

RDS SL ADJUSTMENT

	No.	FM SSG		Displayed	Adjustment	Adjustment Method
		Frequency(MHz)	Level(dBf)	Frequency(MHz)	Point	(Switch Position)
	1	104.0 S2	35	104.0	VR701	DC V Meter(2) : 1.75V+0.05V,-0.35V

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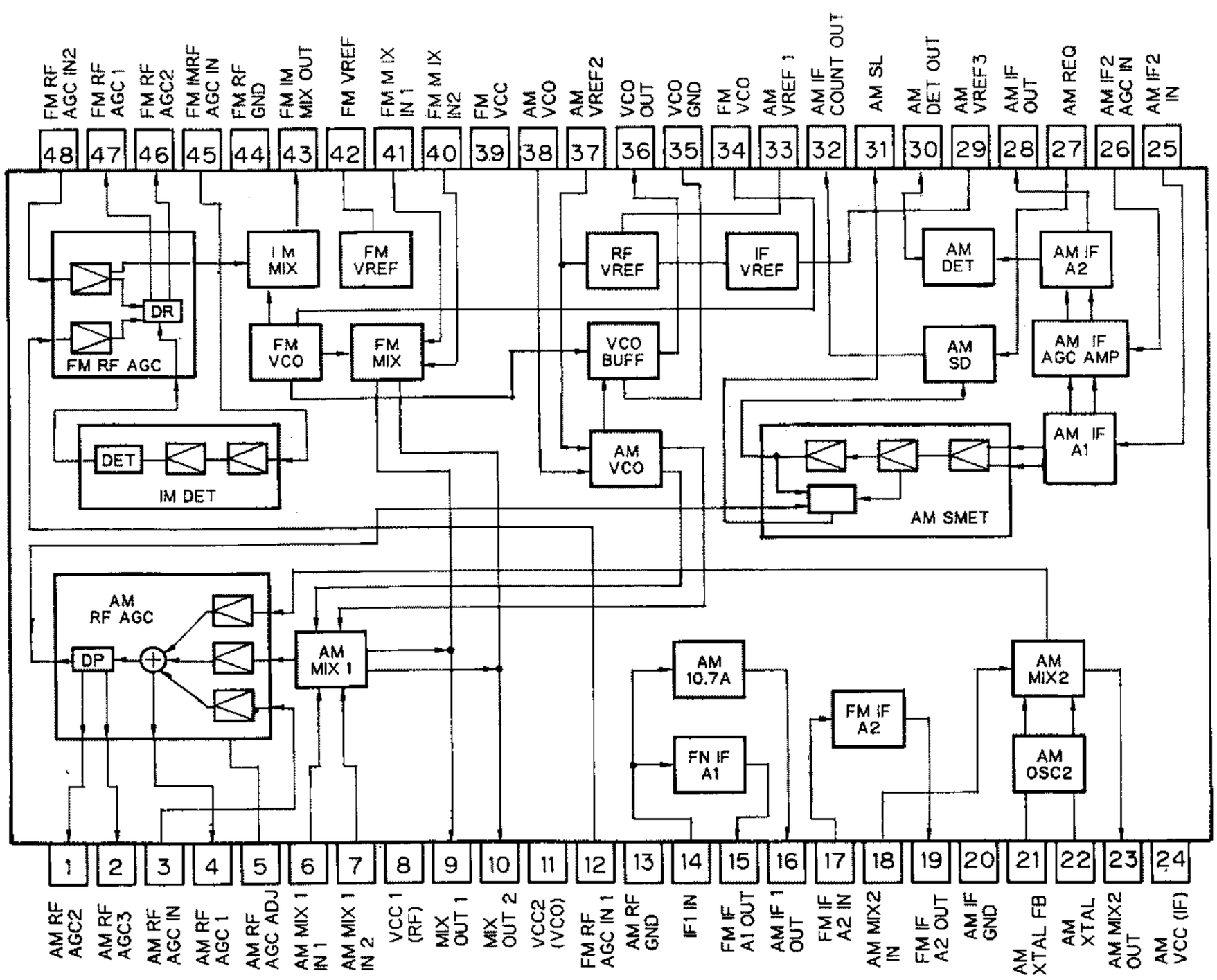
7. GENERAL INFORMATION

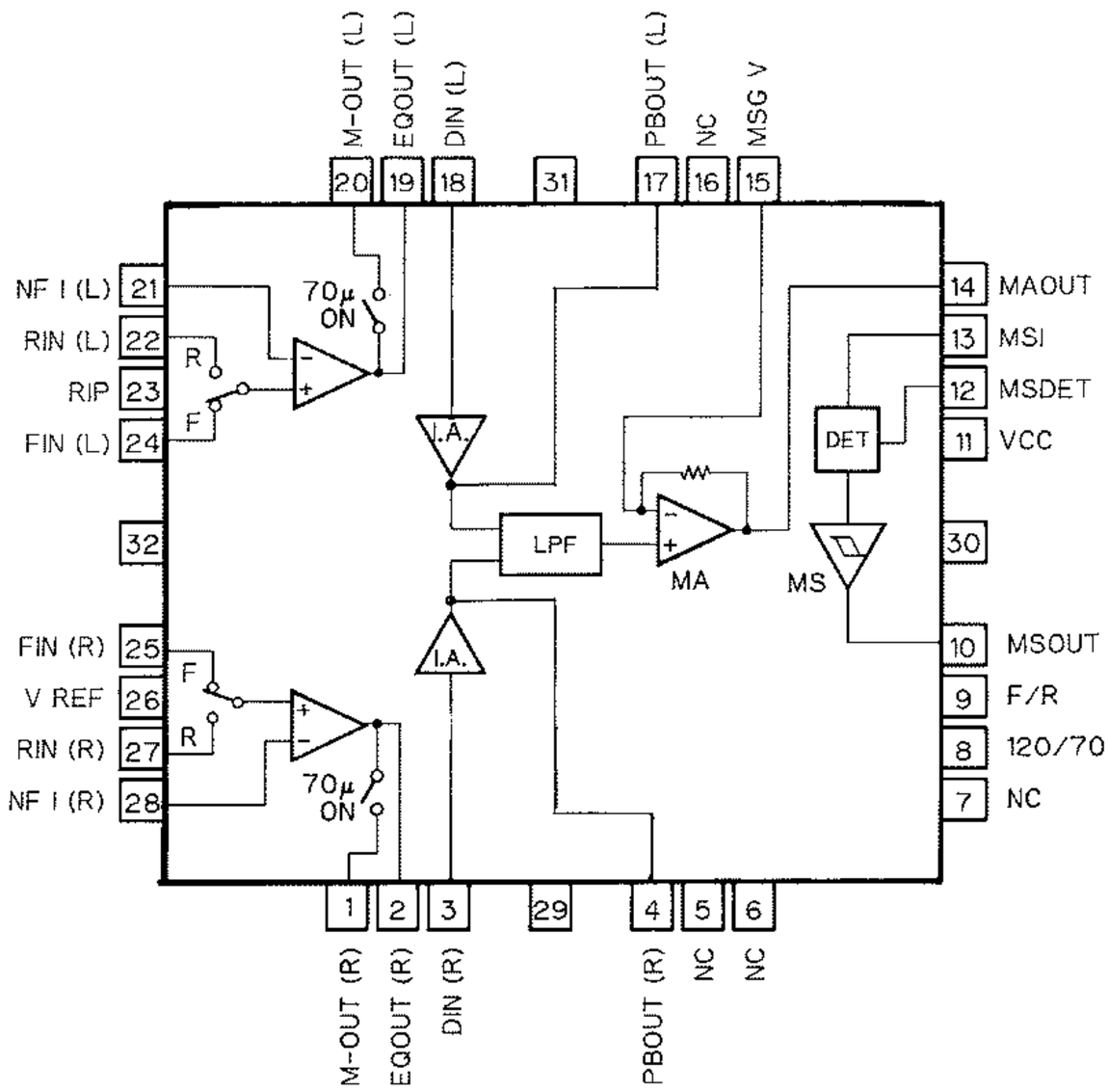
7.1 PARTS

7.1.1 IC

PA4023B



HA12197F



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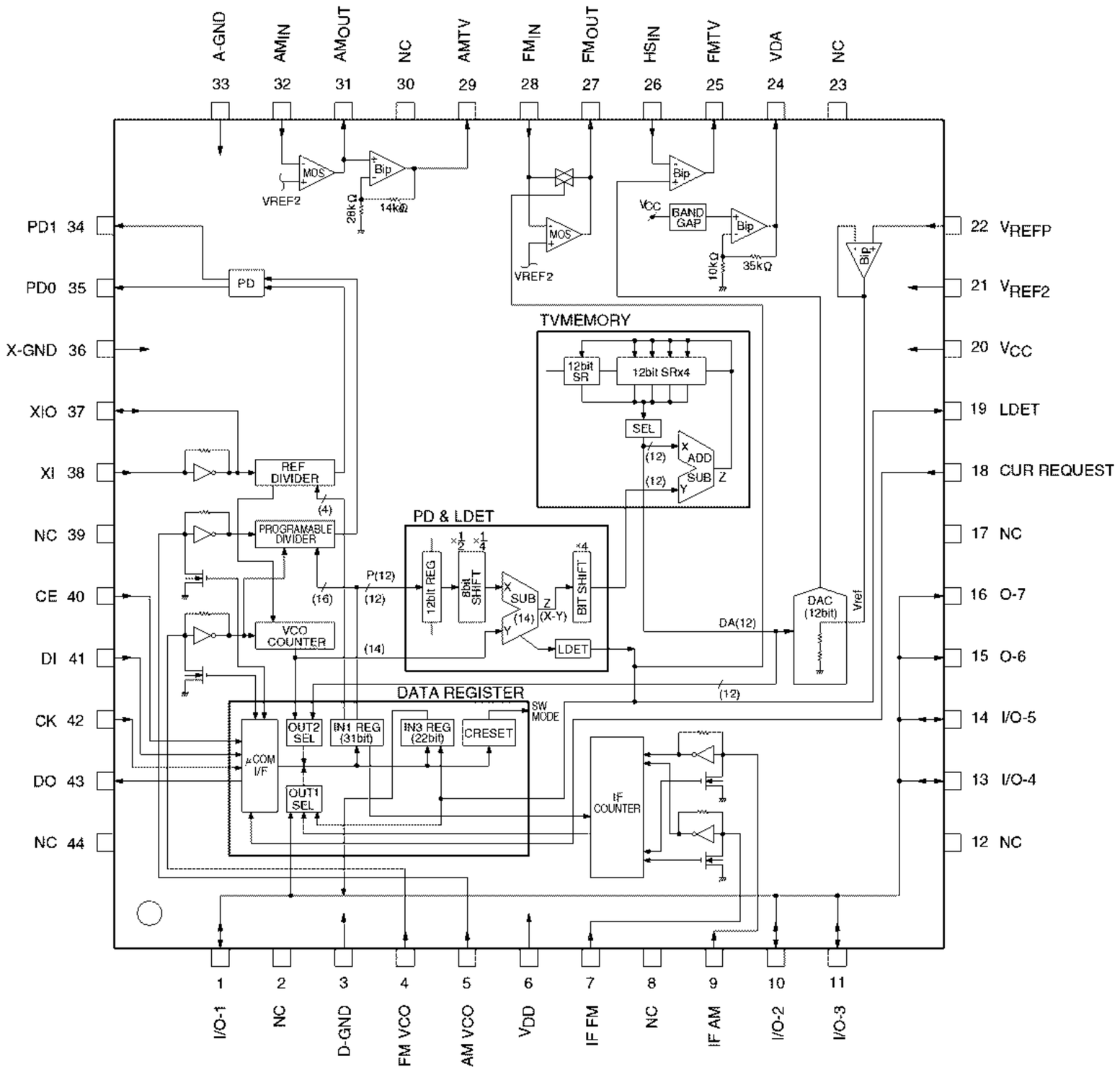
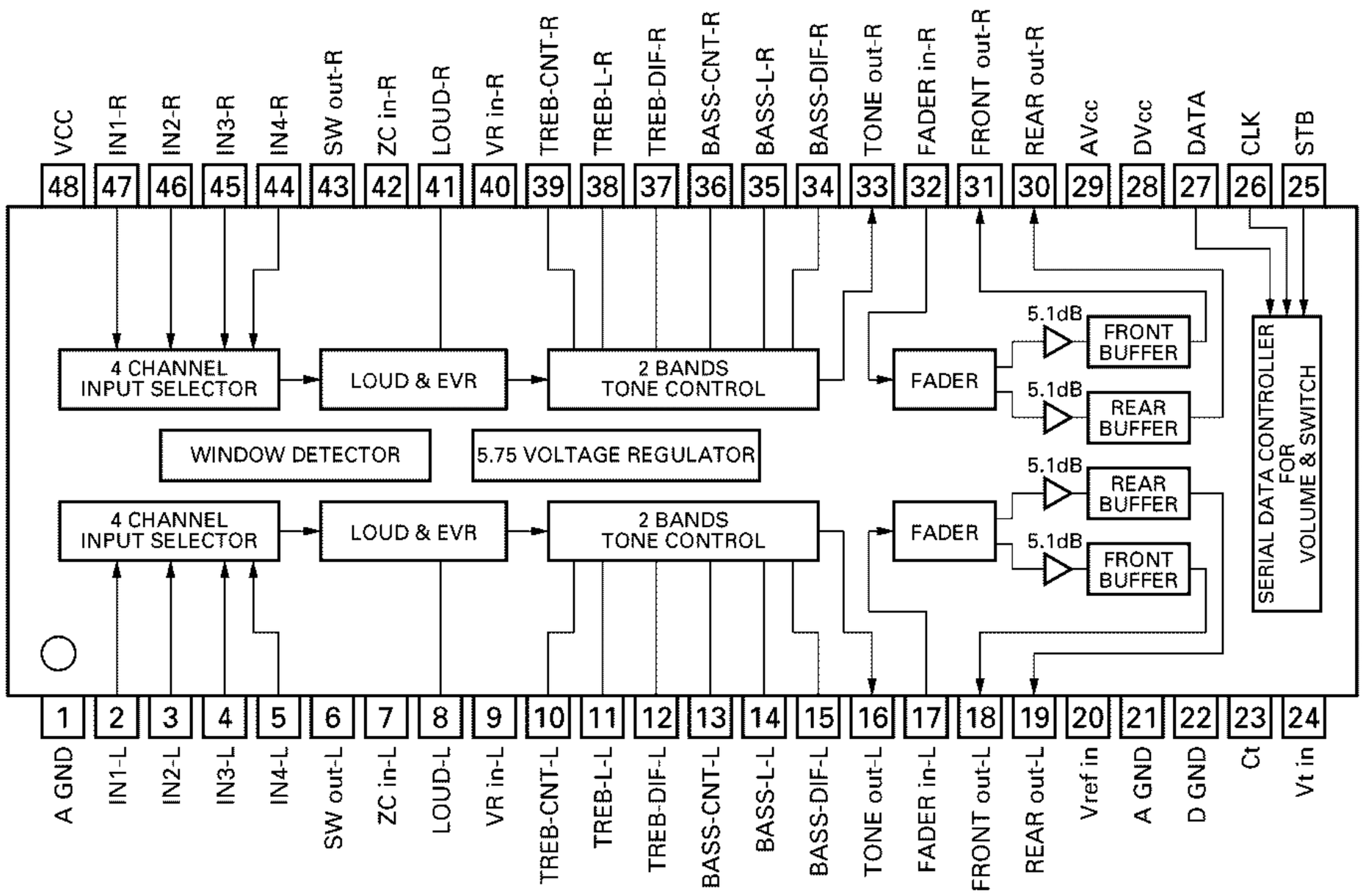
PM2007A



SN761027DL



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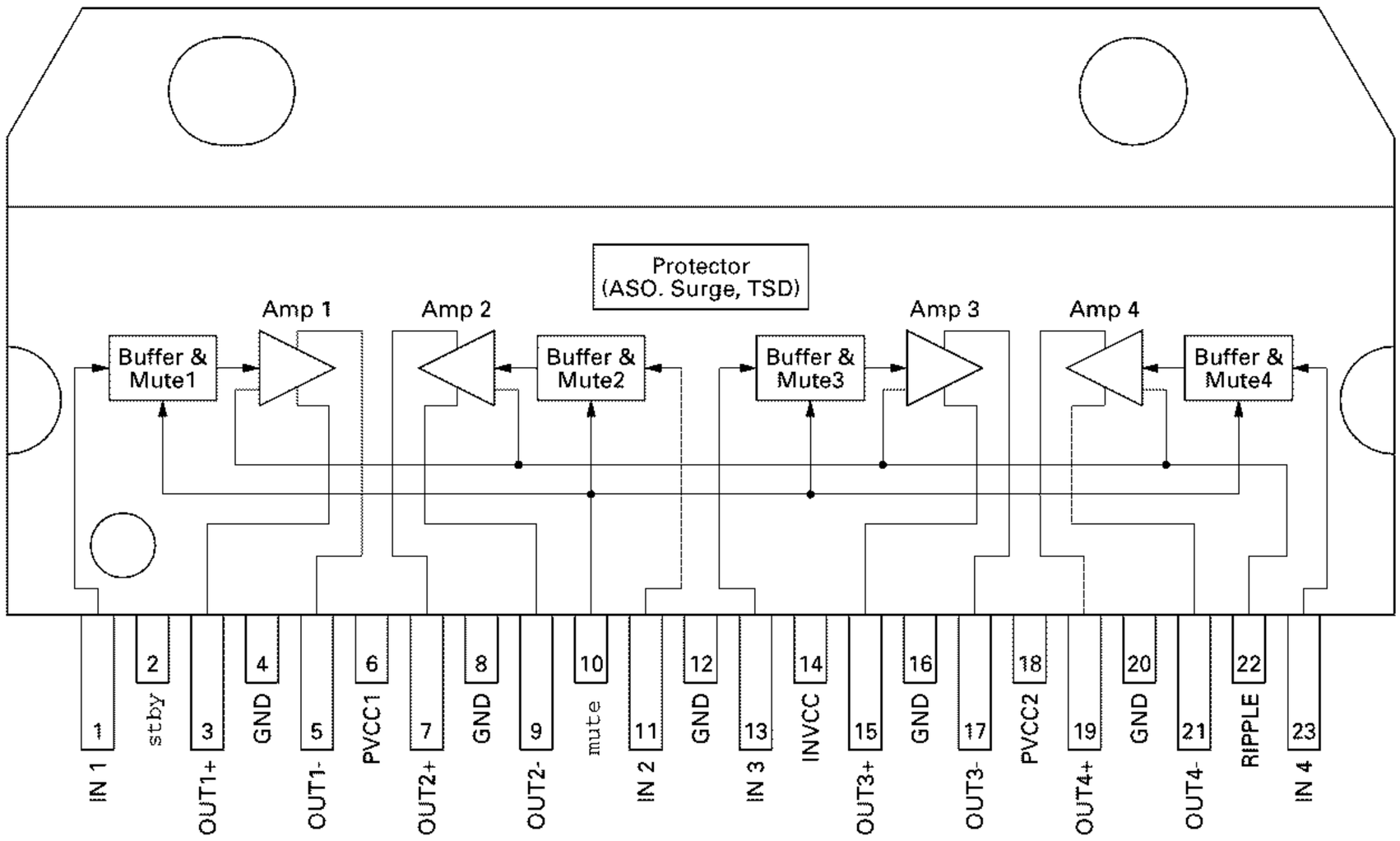
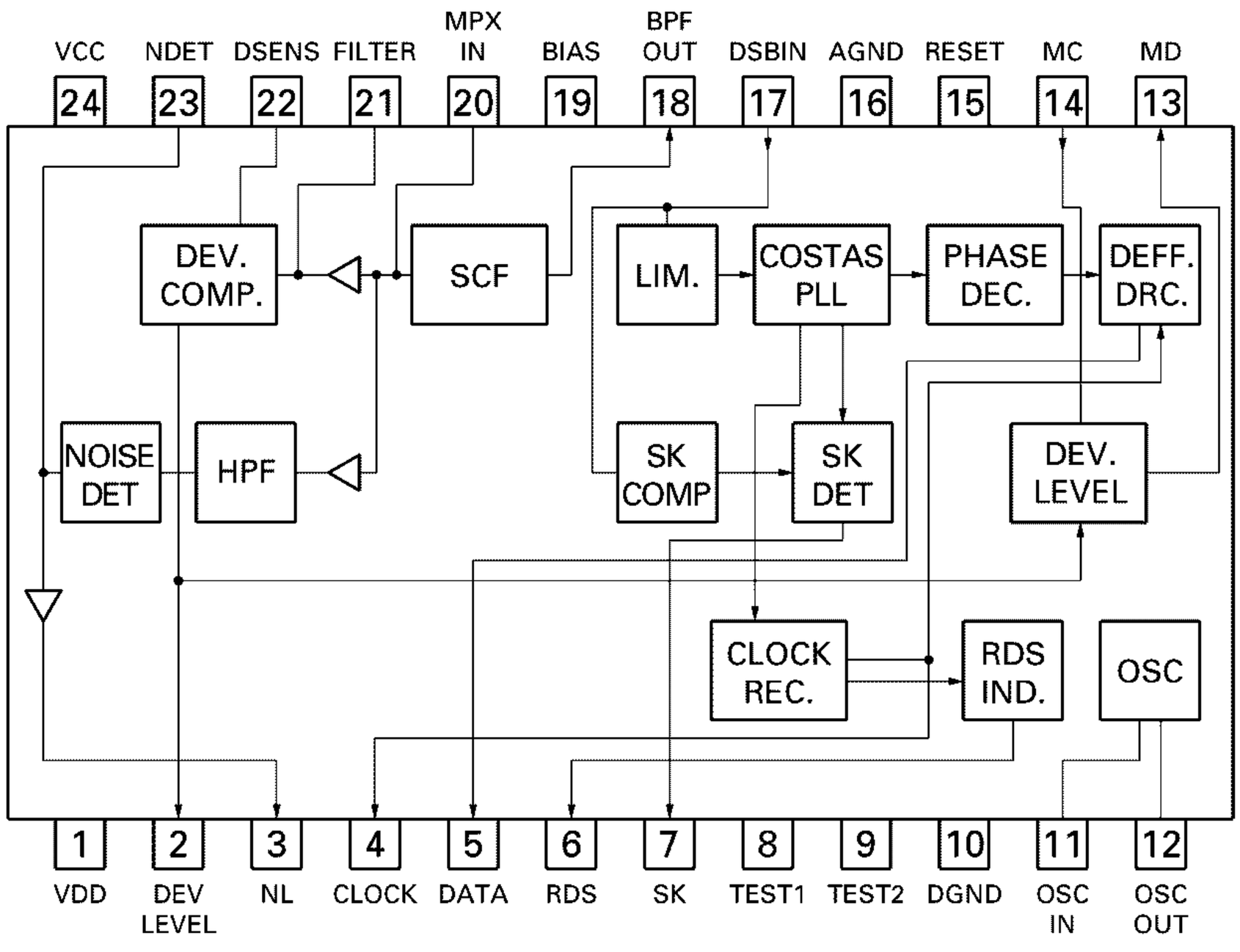
HA13155



PM4006B



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● Pin Functions (PD4872B)

Pin No.	Pin Name	I/O	Format	Function and Operation
1	RDT	I		FROM data input
2	NC			Not used
3	ADPW			A/D converter power
4	GND			GND
5	$\overline{\text{DRST}}$	O	C	Decoder reset output
6	MDSENS	I		Modulation detect input
7	AVREF1			(D/A converter standard voltage)
8	KYDT	I		Key data input
9	DPDT	O	C	Display data output
10	$\overline{\text{DSENS}}$	I		Grille detach sense
11	TUNPDI	I		PLL IC data input
12	TUNPDO	O	C	PLL IC data output
13	TUNPCK	O	C	PLL IC clock output
14	TUNPCE	O	C	PLL IC chip enable output
15	$\overline{\text{CURRQ}}$	O	C	Tuner voltage FIX output
16	NC			Not used
17	SK	I		SK signal input
18	MUTCNT	I		NF mute control input
19-21	NC			Not used
22	$\overline{\text{SWVDD}}$	O	C	Grille power supply control output
23	NC			Not used
24	VDT	O	C	Data output for electronic volume
25	VCK	O	C	Clock output for electronic volume
26	VST	O	C	Strobe pulse output for electronic volume
27	SYSPW	O	C	System power supply control output
28	$\overline{\text{MUTE}}$	O	C	Mute output
29	DMINH	O	C	Mechanism mute cancel output
30,31	NC			Not used
32	$\overline{\text{EW}}$/BEW	I	C	Model select
33	GND			GND
34–36	NC			Not used
37	$\overline{\text{TMUTE}}$	O	N	Tuner mute output
38	FM	O	N	FM power control output
39	AM	O	N	AM power control output
40	ASENBO	O	C	Slave power supply control output
41–44	NC			Not used
45	PEE	O	C	Beep tone output
46	NC			Not used
47	RDS57K	I		57kHzBP-OUT sense input
48	NC			Not used
49	MSOUT	O	C	MS output
50	$\overline{\text{EJECT}}$	I		Eject key input pin
51	$\overline{\text{TAPLD}}$	I		Tape loading input
52	MECPW	O	C	Cassette mechanism power output
53	$\overline{\text{MCMUT}}$	I		Mechanism mute request
54	$\overline{\text{NOR}}$/REV	I		Normal reverse input
55	$\overline{\text{MSIN}}$	I		Cassette mechanism MS sense input
56	TX	O	C	IP BUS data output
57	RX	I		IP BUS data input
58	MTL	O	C	METAL output
59	NR	O	C	NR output
60	$\overline{\text{RESET}}$	I		Reset input
61	$\overline{\text{LDET}}$	I		PLL lock sense input
62	$\overline{\text{RCK}}$	I		RDS demodulation clock input
63	CLKIN	I		Clock input
64	$\overline{\text{ASENS}}$	I		ACC power sense input
65	$\overline{\text{BSENS}}$	I		Back up power sense input
66	SD	I		SD input
67	$\overline{\text{ST}}$	I		Stereo input
68	VDD			Power supply

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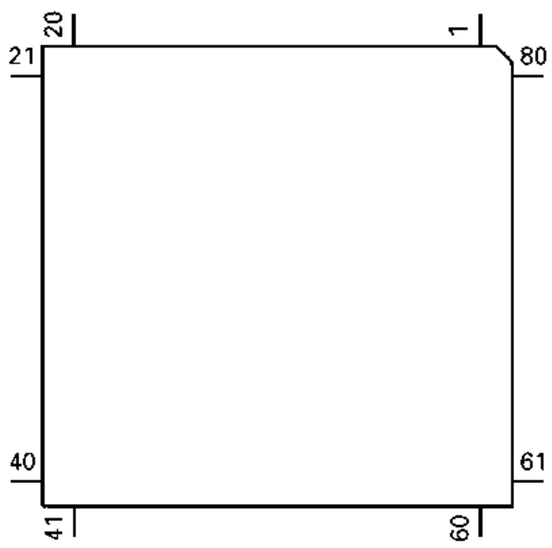
Pin No.	Pin Name	I/O	Format	Function and Operation
69	X2			Oscillator output
70	X1			Oscillator input
71	GND			GND
72	NC			Not used
73	TESTIN	I		Test program mode input
74	AVDD			Positive power supply terminal for analog circuit
75	AVREF0			(A/D converter standard voltage input)
76	SL	I		Signal level input from tuner
77	CL	I		Synchronizing signal input of display data latch
78	NL	I		Noise level input
79–79	TL	I		Trigger level input
80	$\overline{\text{RDSLK}}$	I		RDS LK signal input

*PD4872B



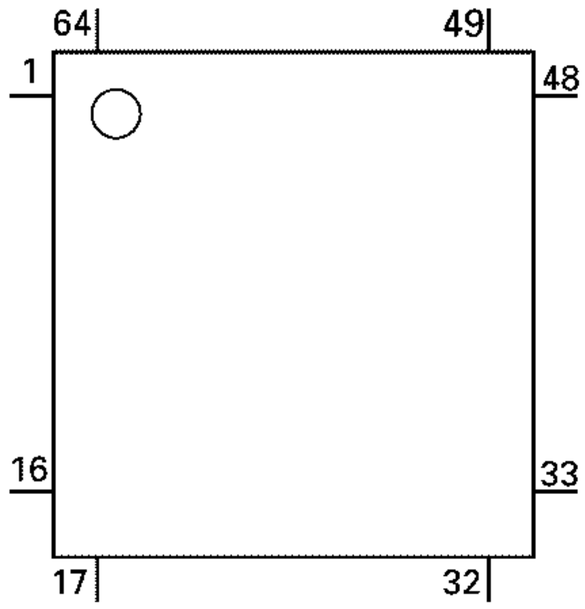
IC's marked by are MOS type.*
Be careful in handling them because they are very liable to be damaged by electrostatic induction.

Format	Meaning
C	C MOS
N	N Channel open drain

● Pin Functions(PD6196A)

Pin No.	Pin Name	I/O	Function and Operation
1–5	SEG4-0	O	LCD segment output
6–9	COM3-0	O	Common driver output
10	V3		LCD bias power supply
11–14	KS4-1	O	Key strobe output
15,16	KD1,2	I	Key data input
17	REM	I	Remote control reception
18	SI	I	UART input
19	$\overline{\text{RST}}$	I	System reset
20	SO	O	UART output
21	MODA		GND
22	X0		Crystal oscillator connection pin
23	X1		Crystal oscillator connection pin
24	VSS		GND
25,26	KD3,4	I	Key data input
27,28	KS6,5	O	Key strobe output
29–55	SEG39-13	O	LCD segment output
56	VCC		5V
57–64	SEG12-5	O	LCD segment output

*PD6196A



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7.1.2 DISPLAY

● CAW1383(KEH-P3700R/X1M/EW)

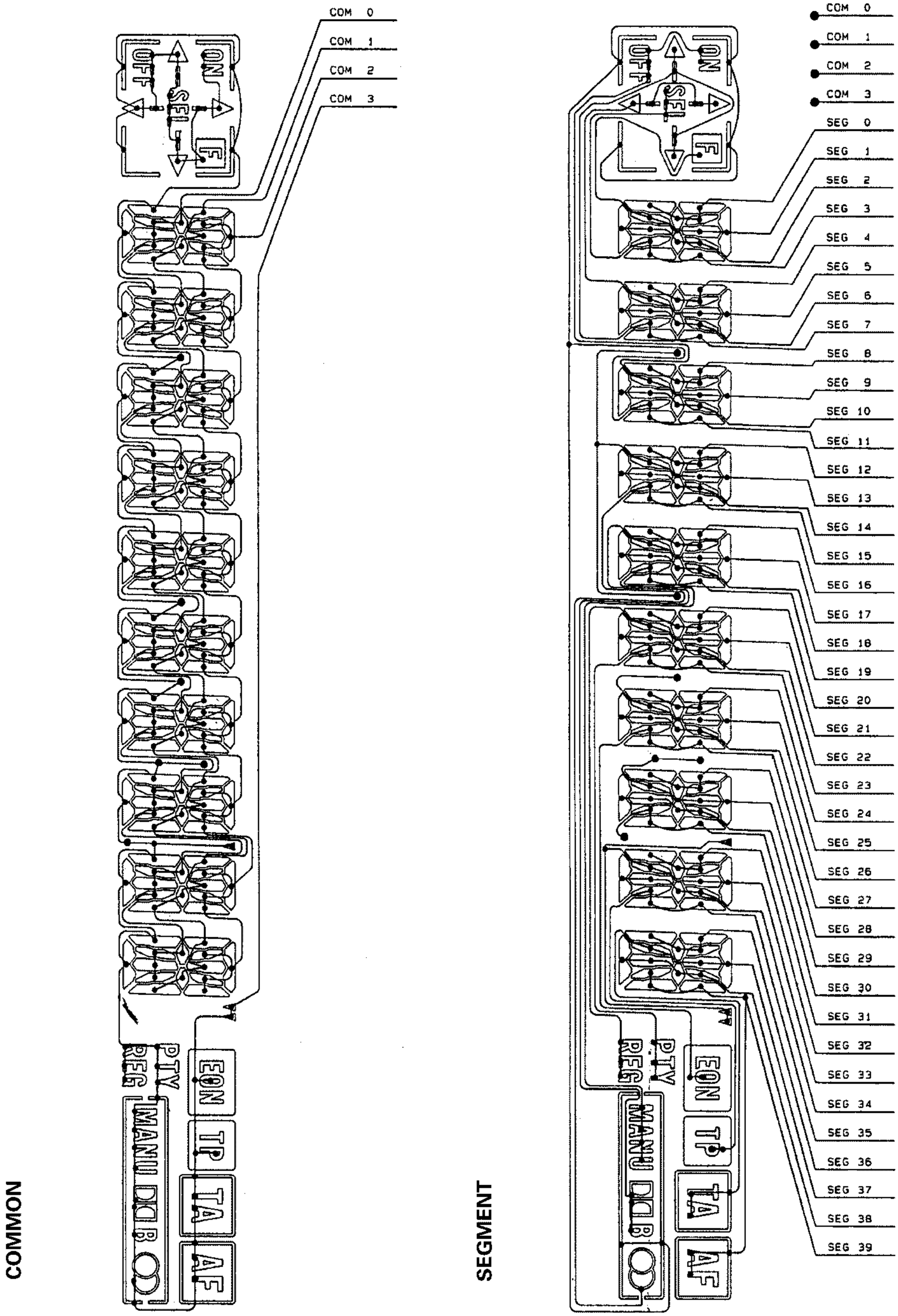

Fig. 16

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● CAW1391(KEH-P3730R/X1M/EW)

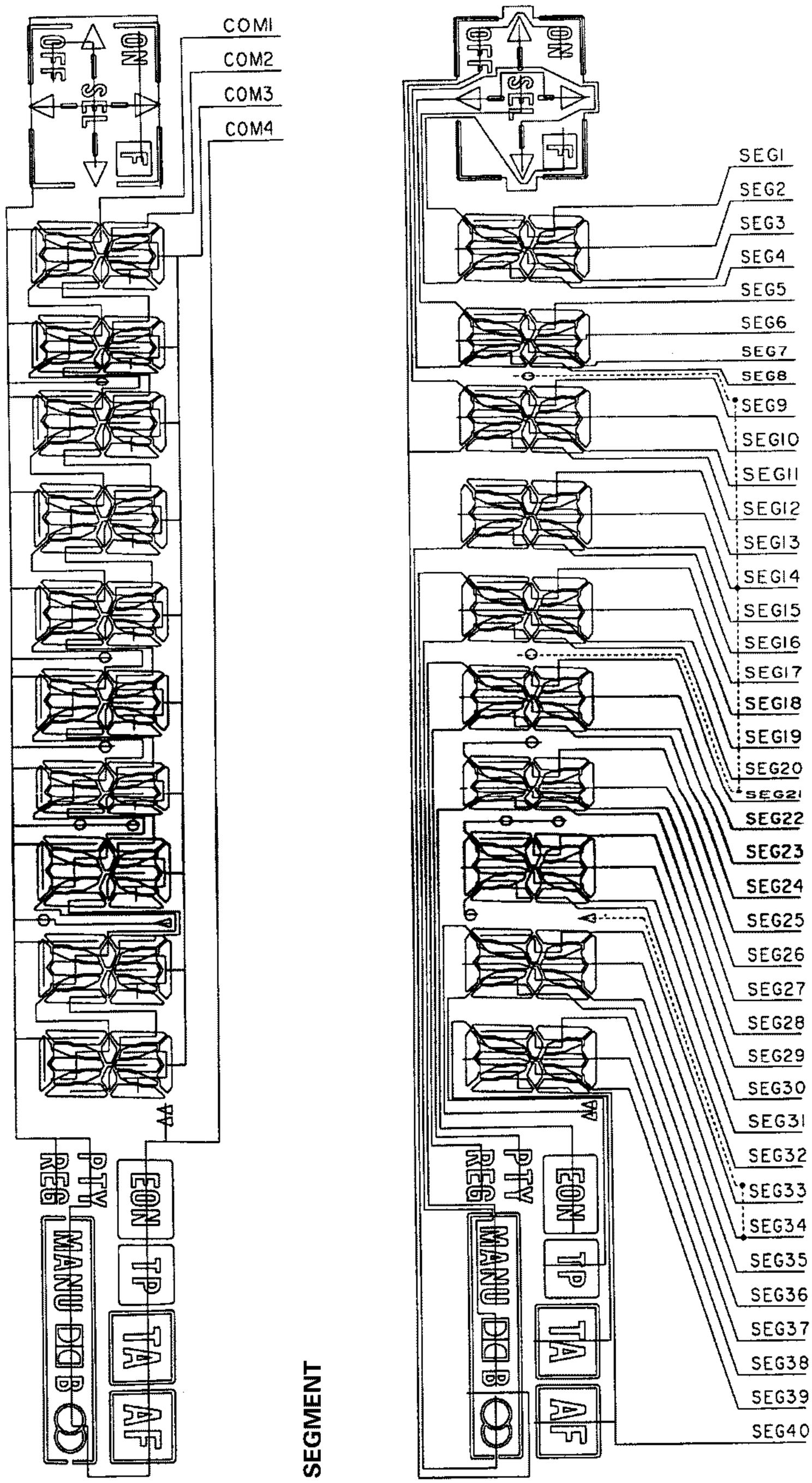

Fig. 17

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7.2 DISASSEMBLY

● **Removing the Case(not shown)**

1. Remove the three screws.
2. Remove the Case.

● **Removing the Cassette Mechanism Assy (not shown)**

1. Remove the four screws.
2. Disconnect the connector, and then removing the Cassette Mechanism Assy.

● **Removing the Grille Assy(Fig.18)**

1. Disengage the stopper at two locations indicated by arrows.
2. Remove the Grille Assy.

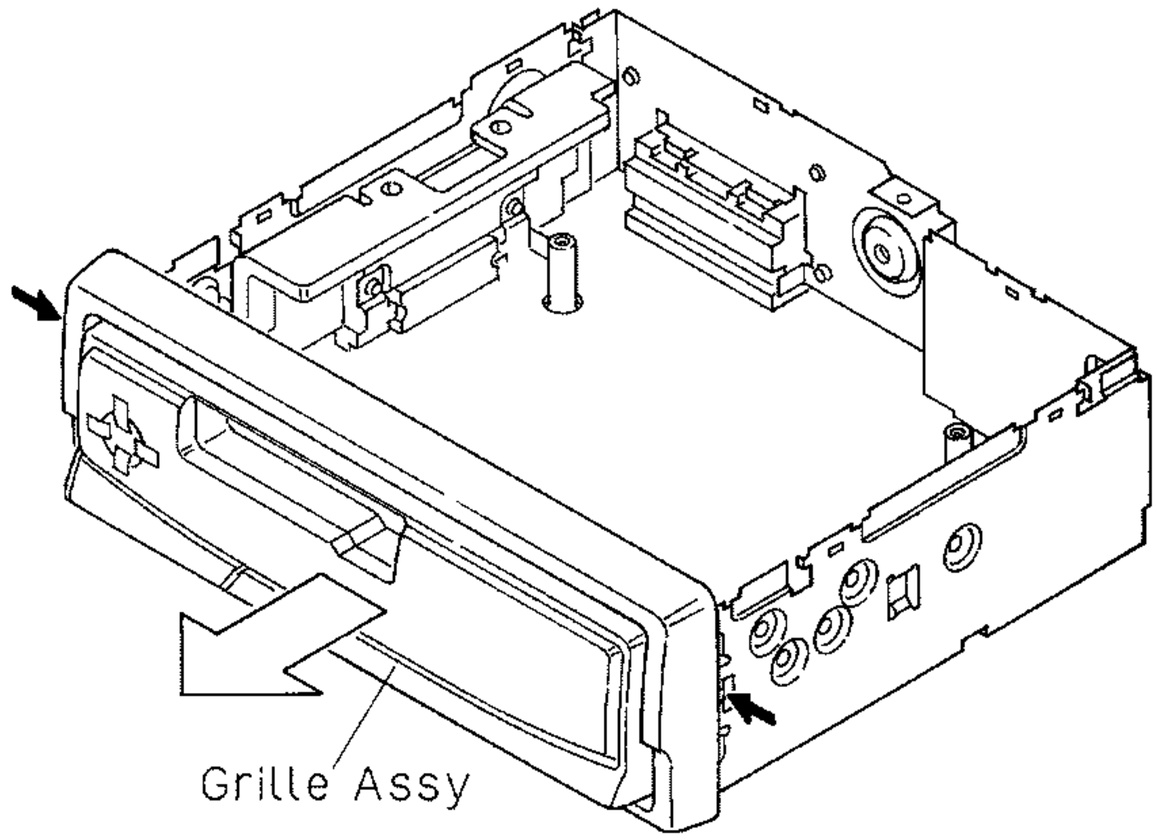

Fig. 18

● **Removing the Tuner Amp Unit(Fig.19)**

1. Removing the three screws A, two screws B and screw C.
2. Unbend the tabs at a location indicated by arrow until straight.
3. Remove the Tuner Amp Unit.

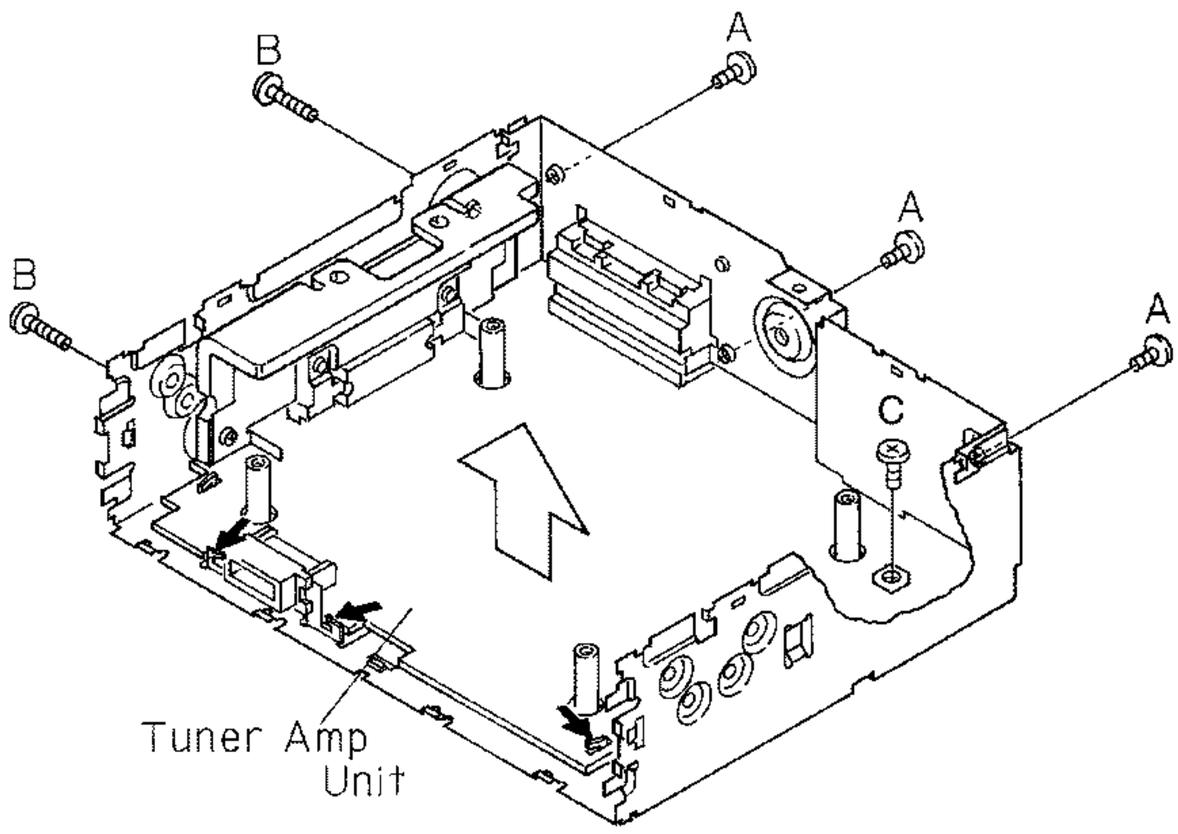

Fig. 19

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7.3 BLOCK DIAGRAM

● KEH-P3700R/X1M/EW

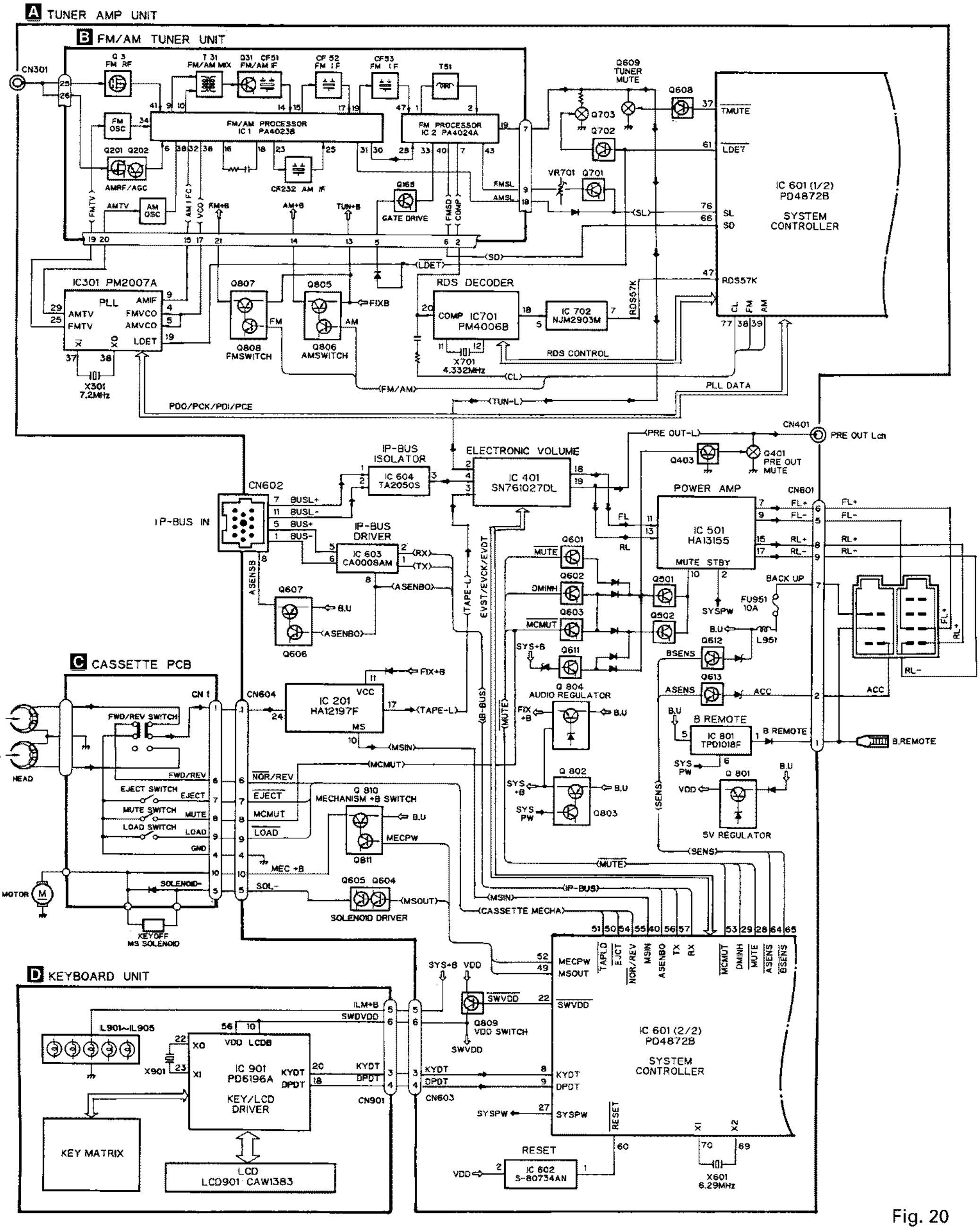

Fig. 20

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8. OPERATIONS AND SPECIFICATIONS

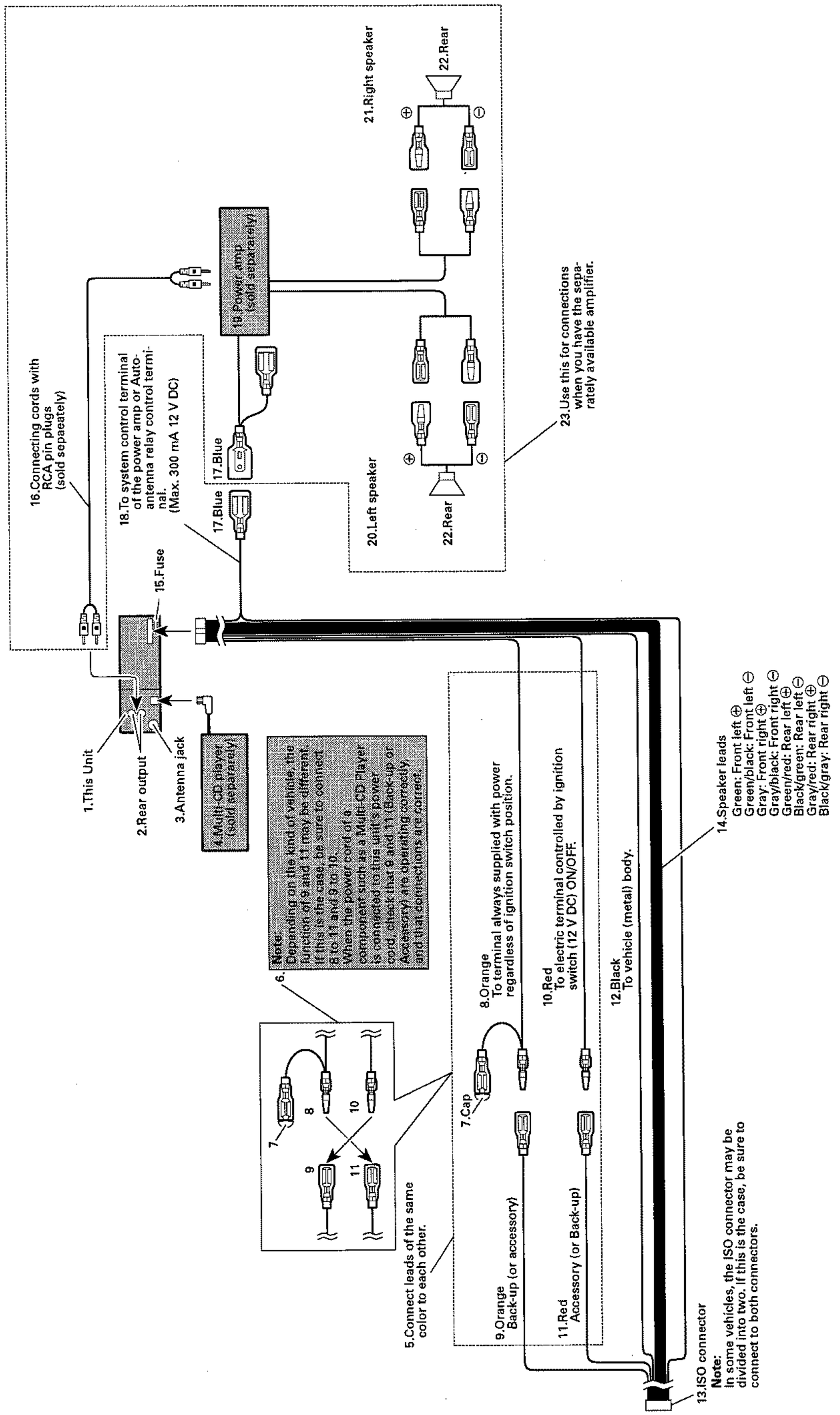
21.Right speaker
22.Rear
19.Power amp (sold separately)
16.Connecting cords with RCA pin plugs (sold sepaeately)
18.To system control terminal of the power amp or Auto-antenna relay control terminal. (Max. 300 mA 12 V DC)
15.Fuse
17.Blue
17.Blue
20.Left speaker
22.Rear
23.Use this for connections when you have the separately available amplifier.
1.This Unit
2.Rear output
3.Antenna jack
4.Multi-CD player (sold separately)
Note:
Depending on the kind of vehicle, the function of 9 and 11 may be different. If this is the case, be sure to connect 8 to 11 and 9 to 10.
When the power cord of a component such as a Multi-CD Player is connected to this unit's power cord, check that 9 and 11 (Back-up or Accessory) are operating correctly, and that connections are correct.
6.
7
8
10
9
11
5.Connect leads of the same color to each other.
7.Cap
8.Orange
To terminal always supplied with power regardless of ignition switch position.
10.Red
To electric terminal controlled by ignition switch (12 V DC) ON/OFF.
12.Black
To vehicle (metal) body.
9.Orange
Back-up (or accessory)
11.Red
Accessory (or Back-up)
13.ISO connector
Note:
In some vehicles, the ISO connector may be divided into two. If this is the case, be sure to connect to both connectors.
14.Speaker leads
Green: Front left ⊕
Green/black: Front left ⊖
Gray: Front right ⊕
Gray/black: Front right ⊖
Green/red: Rear left ⊕
Black/green: Rear left ⊖
Gray/red: Rear right ⊕
Black/gray: Rear right ⊖

Fig. 21

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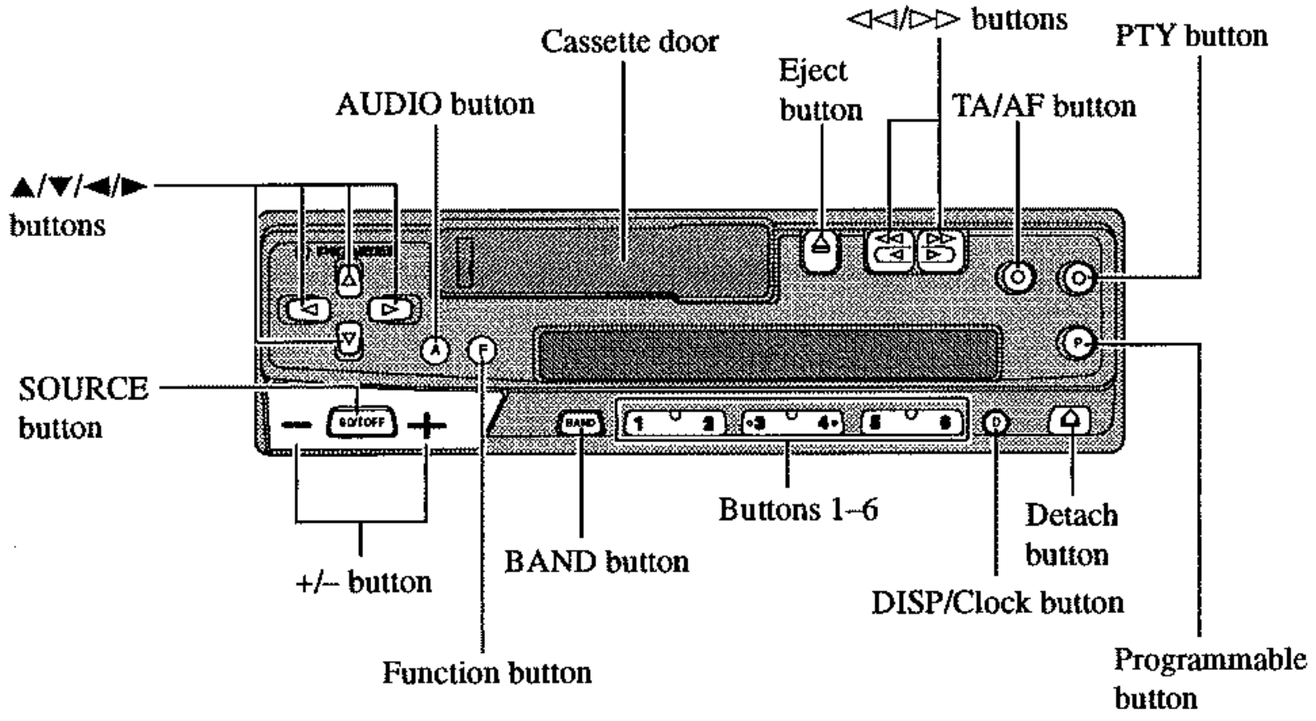
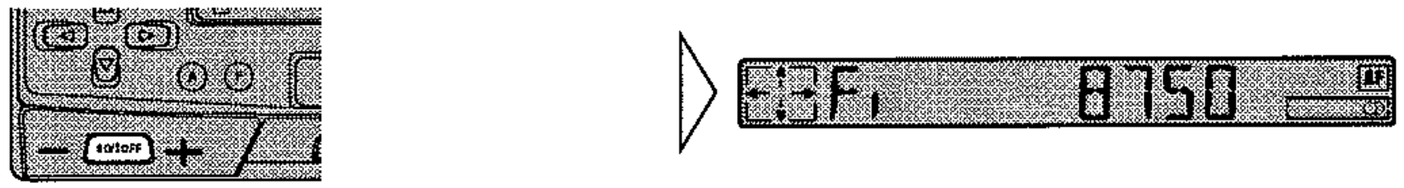
Key Finder



Basic Operation

Switching Power On

- **Select the desired source (such as the tuner).**

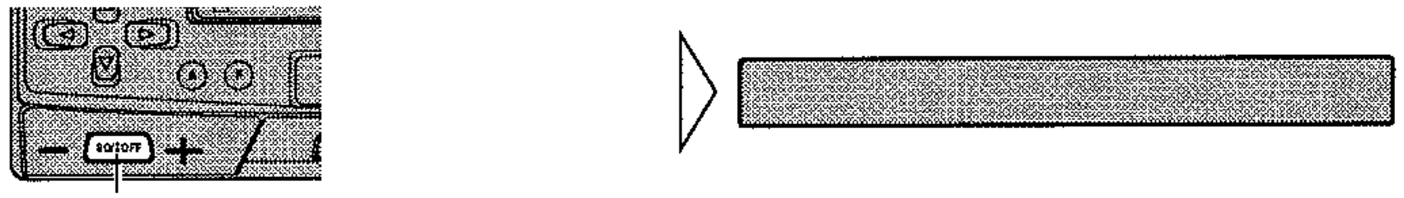


Each press of the SOURCE button selects the desired source in the following order:
Tuner → Tape → Multi-CD player → AUX

Note:
- In the following cases, the sound source will not change:
  * No Multi-CD player is connected to this unit.
  * No cassette tape is set in this unit.
  * No magazine is set in the Multi-CD player.
  * AUX (external input) is set to OFF.

Switching Power Off

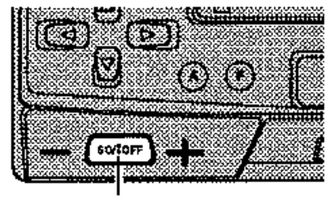
- **Switch the sources OFF.**



Hold for 1 second

Basic Operation of Tuner

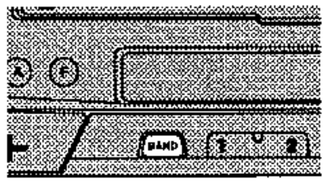
1. Select Tuner.

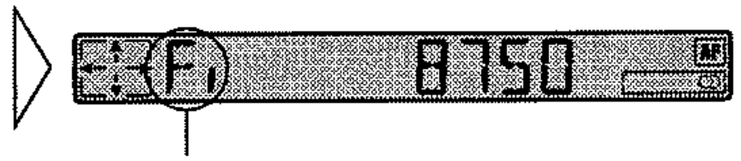


Each press
changes the Source ...

The program service name or frequency appears on the display.
("◯" indicator lights when a stereo station is selected.)

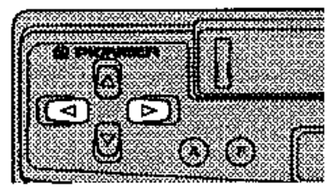
2. Select the desired band.





FI → FII → FIII → MW/LW

3. Tune the receiver to a higher or lower frequency.

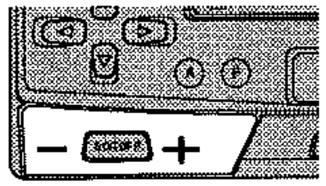


This product's tuner lets you select the tuning by changing the length of the time you press the button.

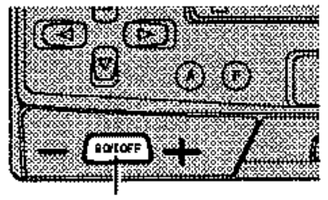
Manual Tuning (step by step)	0.3 seconds or less
Seek Tuning	0.3 – 2 seconds
Manual Tuning (continuously)	2 seconds or more

Note:
- To select a weak broadcasting station that cannot be tuned in with the Seek Tuning function, tune in with Manual Tuning.

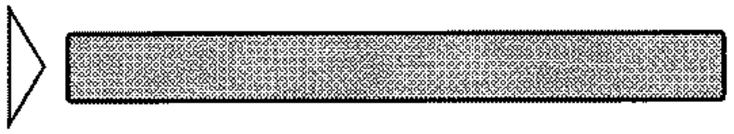
4. Raise or lower the volume.



5. Turn the source OFF.



Hold for 1 second

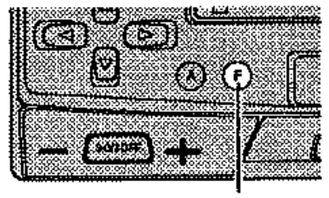


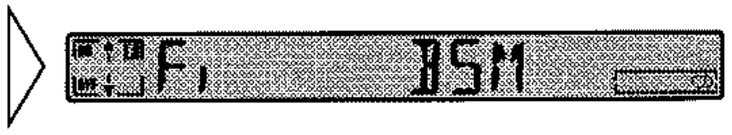
Entering the Function Menu

In this menu you can select tuner functions.

Note:
- REG, TA, PTY, and AF are RDS functions. Refer to "Using RDS Function" for details and instructions on how to use these functions.

- **Select the desired mode in Function Menu.**





Each press
changes the Mode ...

Each press of the Function button selects the mode in the following order:
BSM → REG → LOCAL → TA → PTY SELECT → AF

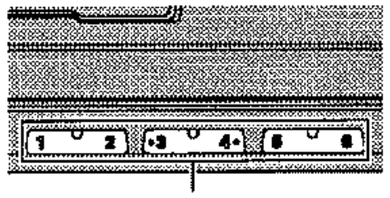
Note:
- You can cancel the Function Menu by pressing the BAND button.
- After selecting the Function Menu, if you do not perform an operation within about 30 seconds, the Function Menu is automatically canceled.

Tuner Operation

Preset Memory

The Preset Memory function stores stations in memory manually.

1. **Select the station whose frequency you want to store in memory.**
2. **Press one of buttons 1–6 for 2 seconds or longer to store the desired stations.**



Hold for 2 seconds

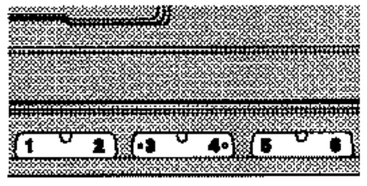
The station is stored in memory under the selected button.

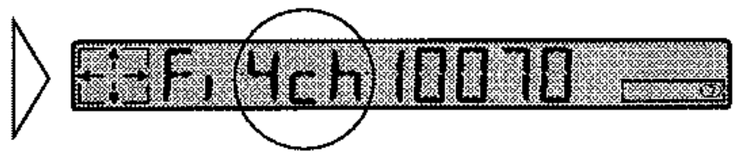
Recalling Preset Stations

There are two ways to recall preset stations.

■ Direct Recall

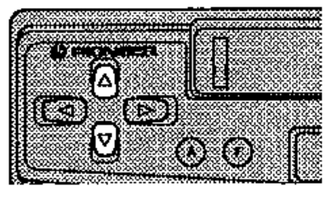
- **Press one of buttons 1–6 to recall a station preset under that button.**





■ Sequential Recall

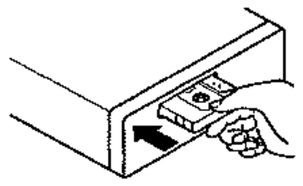
- **Recall a station preset under button 1–6.**

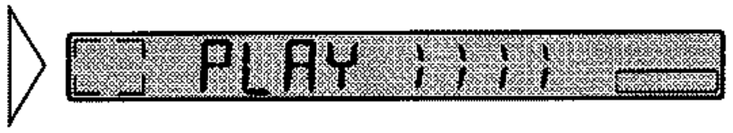


Using the Cassette Player

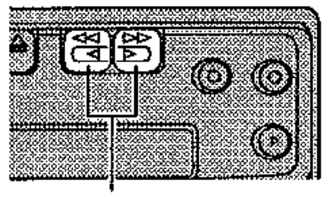
Basic Operation of Cassette Player

1. **Insert the cassette tape.**

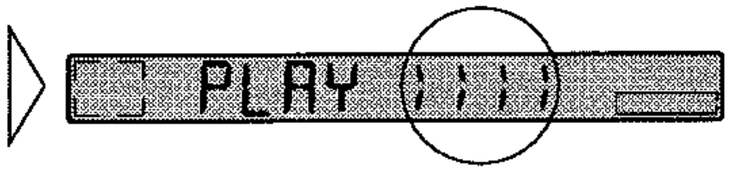




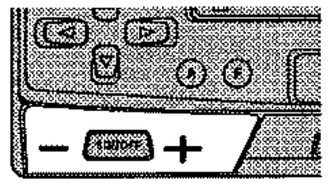
2. **Switch tape playback from side A to side B, or vice versa.**



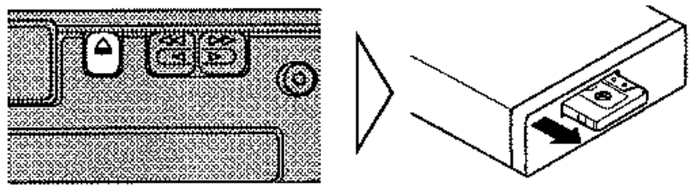
Same Time



3. **Raise or lower the volume.**



4. **Remove the cassette tape.**



Note:

- The Tape function can be turned ON/OFF with the cassette tape remaining in this product.

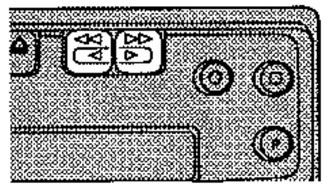
Using the Cassette Player

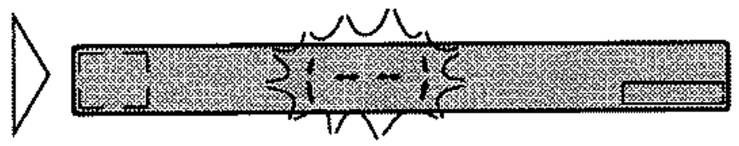
Fast Forward/Rewind

■ Fast Forward

While "<-->" is displayed, the system fast-forwards the cassette tape to the end of the current side.

- **Fast-forward the cassette tape by pressing the button for the same direction as the tape play indicator.**

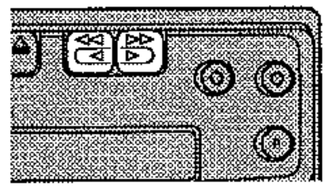


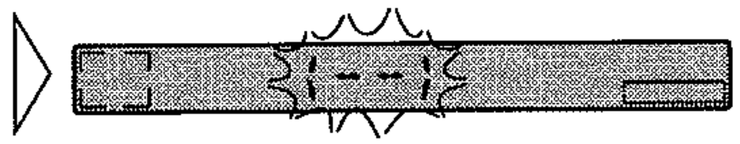


■ Rewind

While "<-->" is displayed, the system rewinds the cassette tape to the beginning of the current side.

- **Rewind the cassette tape by pressing the button for the opposite direction as the tape play indicator.**

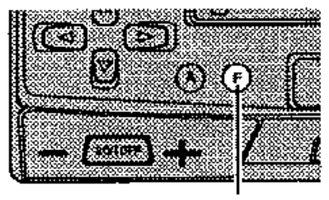




Entering the Function Menu

In this menu you can select Tape functions.

- **Select the desired mode in Function Menu.**



Each press
changes the Mode ...

Each press of the Function button selects the mode in the following order:
MS → RI

Note:

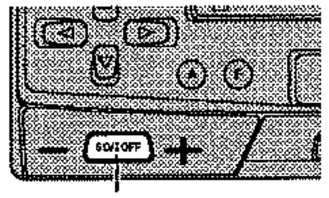
- You can cancel the Function Menu by pressing the BAND button.
- After selecting the Function Menu, if you do not perform an operation within about 30 seconds, the Function Menu is automatically canceled.

Using Multi-CD Players

This product can control one or more multi-CD players.

Basic Operation of Multi-CD Players

1. Select the multi-CD player source.

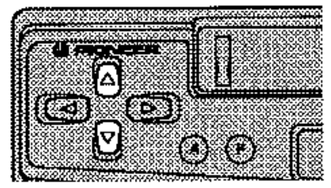


Each press
changes the Source ...

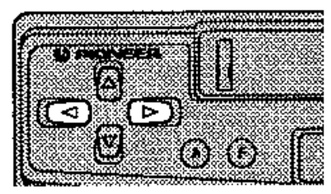
Note:

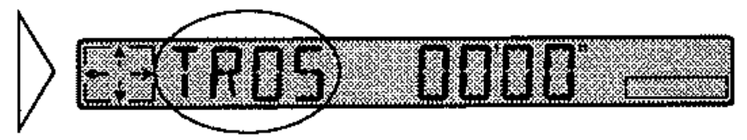
- The multi-CD player may perform a preparatory operation, such as verifying the presence of a disc or reading disc information, when the power is turned ON or a new disc is selected for playback. "READY" is displayed.
- If the multi-CD player cannot operate properly, an error message such as "ERROR 14" is displayed. Refer to the multi-CD player owner's manual.

2. Select the desired disc.

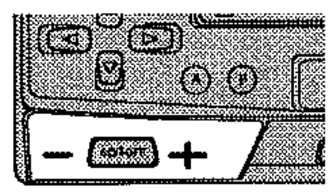


3. Reverse or advance track by track.

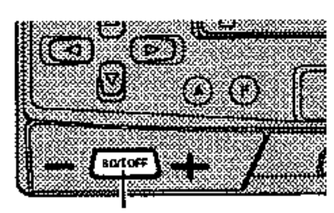




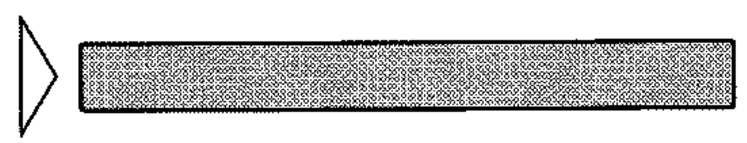
4. Raise or lower the volume.



5. Turn the source OFF.



Hold for 1 second



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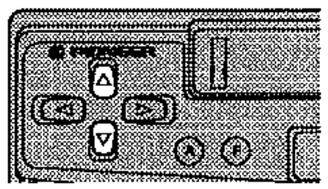
Bass/Treble Adjustment

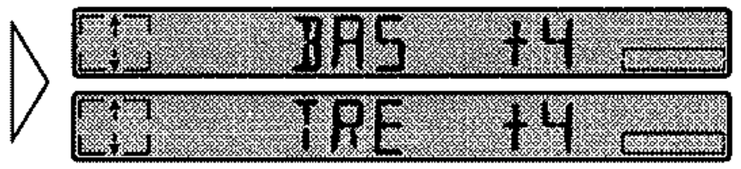
This product is equipped with two tone adjustment modes, the Bass Adjustment and Treble Adjustment modes.

1. **Select "Bass Adjustment mode" or "Treble Adjustment mode".**

   After adjustment use the BAND button to return to the normal display.

2. **Increase or decrease the intensity of the bass or treble, whichever is selected.**





   The display shows "+6" – "–6".

3. **Repeat steps 1 – 2 above for the other Bass or Treble Adjustment mode.**

8.2 SPECIFICATIONS

Specifications

General

Power source ..... 14.4 V DC (10.8 – 15.1 V allowable)
Grounding system ..... Negative type
Max. current consumption ..... 8.5 A
Dimensions
(mounting size) ..... 178 (W) × 50 (H) × 150 (D) mm
(front face) ..... 188 (W) × 58 (H) × 19 (D) mm
Wieght ..... 1.2 kg

Amplifier

Maximum power output ..... 35 W × 4
Continuous power output ..... 22 W × 4
(DIN45324, +B = 14.4 V)
Load impedance ..... 4 Ω (4 – 8 Ω allowable)
Preout output level/output impedance ..... 500 mV/1 kΩ
Tone controls
(Bass) ..... ±12 dB (100 Hz)
(Treble) ..... ±12 dB (10 kHz)
Loudness contour ..... +10 dB (100 Hz), +7 dB (10 kHz)
(volume: –30 dB)

Cassette player

Tape ..... Compact cassette tape (C-30 – C-90)
Tape speed ..... 4.76 cm/sec.(+0.14cm/sec.,-0.05cm/sec.)
Fast forward/rewinding time ..... Approx. 90 sec. for C-60
Wow & flutter ..... 0.13% (WRMS)
Frequency response ..... 40 – 14,000 Hz (±3 dB)
Stereo separation ..... 45 dB
Signal-to-noise ratio ..... 52 dB (IEC-A network)

FM tuner

Frequency range ..... 87.5 – 108 MHz
Usable sensitivity
..... 11 dBf (1.0 µV/75 Ω, mono, S/N: 30 dB)
50 dB quieting sensitivity .... 16 dBf (1.7 µV/75 Ω, mono)
Signal-to-noise ratio ..... 70 dB (IEC-A network)
Distortion ..... 0.3% (at 65 dBf, 1 kHz, stereo)
Frequency response ..... 30 – 15,000 Hz (±3 dB)
Stereo separation ..... 40 dB (at 65 dBf, 1 kHz)

MW tuner

Frequency range ..... 531 – 1,602 kHz
Usable sensitivity ..... 18 µV (25 dB) (S/N: 20 dB)
Selectivity ..... 50 dB (±9 kHz)

LW tuner

Frequency range ..... 153 – 281 kHz
Usable sensitivity ..... 30 µV (30 dB) (S/N: 20 dB)
Selectivity ..... 50 dB (±9 kHz)

Note:

- Specifications and the design are subject to possible modification without notice due to improvements.

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